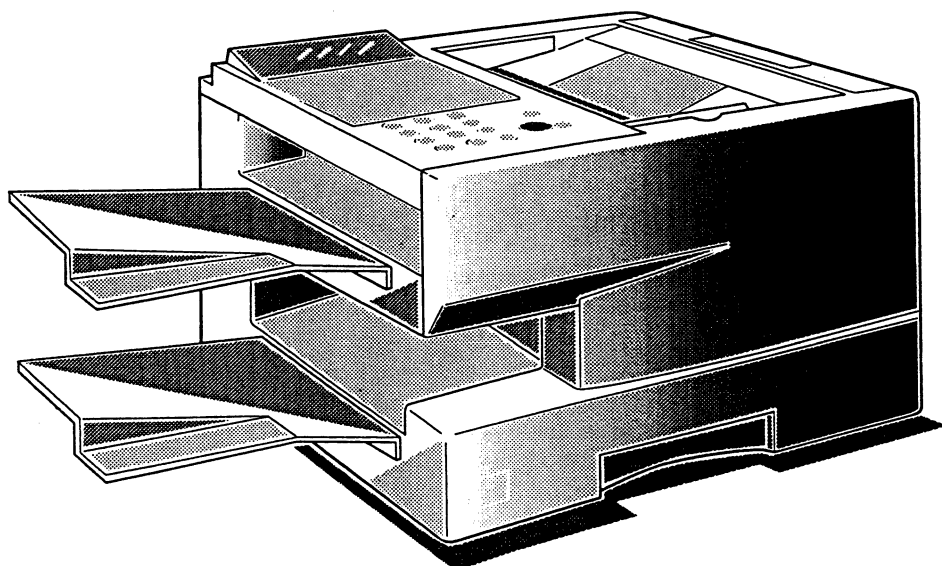


ORDER NO. MGCS970102C0

# Service Manual

Facsimile

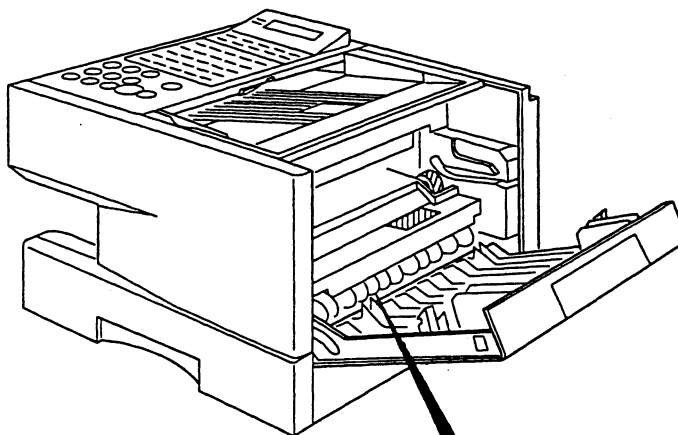
**UF-770/880**  
**UF-A8770/A8880**



**Panasonic®**

# ! WARNING

This service literature is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service literature by anyone else could result in serious injury or death.



|  |   |   |  |   |
|--|---|---|--|---|
| <b>VARNING :</b><br>OSYNLIG LASER-<br>STRÅLNING NÄR<br>DENNA DEL ÄR<br>ÖPPNAD OCH SPÄRRAR<br>ÄR URKOPPLADE.<br>STRÅLEN ÄR<br>FARLIG. | <b>VARO!</b><br>NÄKYMÄTÖN<br>AVATTAESSA JA<br>SUOJALUKITUS<br>OHTETTAESSA<br>OLET ALTUINA<br>LASERSÄTELE, YLLÄ<br>ÄLÄ KATSO<br>SATEESIEN. | <b>VARNING :</b><br>OSYNLIG LASER-<br>STRÅLNING NÄR<br>DENNA DEL ÄR<br>ÖPPNAD OCH SPÄRRAR<br>ÄR URKOPPLAD.<br>BETRÄKTA EJ<br>STRÅLEN. | <b>ADVARSEL :</b><br>USYNLIG LASER-<br>STRÅLING VED ÅBNING<br>NÄR SIKKERHEDS-<br>BRYDERE ER UDE<br>AF FUNKTION.<br>UNDGÅ UDSÆTTELSE<br>FOR STRÅLING. | <b>ADVARSEL :</b><br>USYNLIG LASERSTRÅLING<br>NÄR DEKSEL ÅPNES OG<br>SIKKERHEDSLÅS BRYTES.<br>UNNGÅ EKSPONERING FOR<br>STRÅLEN. |
|--|---|---|--|---|

( For Sweden, Finland, Norway, Denmark )

|  |   |  |   |
|--|---|--|---|
| <b>CAUTION</b> -Invisible laser<br>radiation when open and<br>interlocks defeated.<br>AVOID EXPOSURE<br>TO BEAM. | <b>VORSICHT</b> -Unsichtbare<br>Laserstrahlung, wenn<br>Abdeckung geöffnet und<br>Sicherheitsverriegelung<br>überbrückt. NICHT DEM<br>STRAHL AUSSETZEN. | <b>ATTENTION</b> -Rayonnement<br>laser invisible dangereux<br>en cas d'ouverture et lorsque<br>la sécurité est neutralisée.<br>EXPOSITION DANGEREUSE<br>AU FAISCEAU. | <b>PELIGRO</b> -Cuando se abre<br>y se inválida el bloqueo, se<br>producen radiaciones<br>invisibles de láser.<br>EVÍTESE LA EXPOSICIÓN<br>DIRECTA A TALES RAYOS. |
|--|---|--|---|

( For other countries )

# Contents

|                  |  |            |
|------------------|--|------------|
| <b>Chapter 1</b> | <b>General Description</b>   | <b>1-1</b> |
| 1.1              | Overview   | 1-2        |
| 1.2              | General Features and Functions   | 1-2        |
| 1.3              | General Specifications   | 1-5        |
| 1.4              | Scanner Specifications   | 1-7        |
| 1.5              | Printer Specifications   | 1-7        |
| 1.6              | Power  | 1-8        |
| 1.7              | Environment  | 1-8        |
| 1.8              | Construction   | 1-8        |
| 1.9              | Function Table   | 1-11       |
| <b>Chapter 2</b> | <b>Disassembly</b>   | <b>2-1</b> |
| 2.1              | General Disassembly Flowchart  | 2-2        |
| 2.2              | Document Tray (1106), Paper Cassette (815)   | 2-3        |
| 2.3              | Front Cover (105), Rear Cover (108), Left Side Cover (107)   | 2-4        |
| 2.4              | ADF Guide Assembly, Transmit Guide (117)   | 2-6        |
| 2.5              | LCU PC Board (512), MDM PC Board (547), Control Panel Unit (114), Panel PC Board (214),<br>Display PC Board (215)                          | 2-7        |
| 2.6              | Transmitting Base Unit, Scanner Block (340)  | 2-9        |
| 2.7              | ADF Roller (323), Pre-Feed Roller (325), Eject Roller (330), Feed Roller (328),<br>Transmission Gear Assembly                              | 2-11       |
| 2.8              | B4 LED Array Assembly (333), Verification Stamp Assembly, Transmit Motor (306)   | 2-13       |
| 2.9              | Toner Sensor (639), Bias Transfer Roller (630), Timing Sensor (610)  | 2-14       |
| 2.10             | Fuser Unit (431), Fuser Lamp (408), Thermistor Assembly (405), Paper Exit Sensor (610)   | 2-16       |
| 2.11             | Fuser Roller (414), Eject Roller (422), Pressure Roller (409)  | 2-18       |
| 2.12             | Printer Driving Unit, Printer Motor (650)  | 2-20       |
| 2.13             | Laser Unit (429), Feed Roller (618), Paper Feed Roller (746), Clutch Assembly<br>Gear (660), Paper Feed Solenoid (744), Fan Assembly (622) | 2-21       |
| 2.14             | High Voltage Power Supply (HVPS) (506), Low Voltage Power Supply (LVPS) (513),<br>FCB PC Board (510)                                       | 2-23       |
| 2.15             | Printer Cover Switch (621), No Paper Sensor (610), Magnet Catch (730)  | 2-25       |
| 2.16             | Screw Identification Template  | 2-26       |
| <b>Chapter 3</b> | <b>Maintenance, Adjustments and Check Points</b>   | <b>3-1</b> |
| 3.1              | Required Tools   | 3-2        |
| 3.2              | Periodic Maintenance Points  | 3-2        |
| 3.3              | Periodic Maintenance Check List  | 3-3        |
| 3.4              | Program ROMs   | 3-4        |
| 3.4.1            | Replacement Procedure  | 3-4        |
| 3.4.2            | ROM Location   | 3-4        |
| 3.4.3            | ROM Label (Example: F17AURCA00500/UF-770, F18AURCA00500/UF-880)  | 3-5        |
| 3.5              | ADF Pressure   | 3-6        |
| 3.6              | Printer Unit Test  | 3-7        |
| 3.7              | General Circuit Diagrams   | 3-8        |
| 3.7.1            | Fax Circuit  | 3-8        |
| 3.7.2            | Printer Circuit  | 3-11       |

|   |      |
|---|------|
| 3.7.3 Option Cassette Circuit . . . . .               | 3-12 |
| 3.8 FCB PCB . . . . .                                 | 3-13 |
| 3.9 LCU PCB . . . . .                                 | 3-39 |
| 3.10 SRU PCB (Optional) . . . . .                     | 3-41 |
| 3.11 Low Voltage Power Supply PCB (LVPS) . . . . .    | 3-43 |
| 3.12 High Voltage Power Supply PCB (HVPS) . . . . .   | 3-45 |
| 3.13 Parallel Interface PCB (Option) . . . . .        | 3-47 |
| 3.14 V.24/Encryption Interface PCB (Option) . . . . . | 3-48 |

## **Chapter 4 Troubleshooting . . . . . 4-1**

|  |      |
|--|------|
| 4.1 Initial Troubleshooting Flowchart . . . . .                                    | 4-2  |
| 4.2 Improper LCD Display . . . . .   | 4-3  |
| 4.3 Information Codes (INFO. CODES) . . . . .                                      | 4-4  |
| 4.3.1 Information Codes: 400, 420 . . . . .  | 4-5  |
| 4.3.2 Information Codes: 402, 422 . . . . .  | 4-6  |
| 4.3.3 Information Codes: 404, 405, 407 . . . . .                                   | 4-7  |
| 4.3.4 Information Code: 416 . . . . .  | 4-8  |
| 4.3.5 Information Codes: 408, 409, 417, 418, 490 . . . . .                         | 4-9  |
| 4.3.6 Information Code: 434 . . . . .  | 4-10 |
| 4.3.7 Information Codes: 459, 494, 495 . . . . .                                   | 4-11 |
| 4.3.8 Information Codes: 001, 002, 003, 017 (Recording Paper Jam) . . . . .        | 4-12 |
| 4.3.9 Information Code: 010 (No Recording Paper) . . . . .                         | 4-13 |
| 4.3.10 Information Codes: 030, 031 (Document Jam) . . . . .                        | 4-14 |
| 4.3.11 Information Code: 630 (Dialing Error) . . . . .                             | 4-15 |
| 4.3.12 Information Codes: 403, 411, 414, 415 (Polling Operation Trouble) . . . . . | 4-16 |
| 4.4 Printed Copy Quality Problems . . . . .  | 4-17 |
| 4.4.1 Black Copy . . . . .   | 4-17 |
| 4.4.2 Blank Copy . . . . .   | 4-18 |
| 4.4.3 Vertical White Lines . . . . .   | 4-19 |
| 4.4.4 Ghost Images . . . . .   | 4-20 |
| 4.4.5 Vertical Dark Lines . . . . .  | 4-21 |
| 4.4.6 Horizontal Dark Lines . . . . .  | 4-22 |
| 4.4.7 Dark Background . . . . .  | 4-23 |
| 4.4.8 Light Print . . . . .  | 4-24 |
| 4.4.9 Horizontal White Lines . . . . .   | 4-25 |
| 4.4.10 Improper Fusing (Printed image does not bond to the paper) . . . . .        | 4-26 |
| 4.4.11 Voids in Solid Areas . . . . .  | 4-27 |
| 4.4.12 Black Dots . . . . .  | 4-28 |
| 4.4.13 Recording Paper Creases . . . . .   | 4-29 |
| 4.4.14 Poor Printed Copy Quality . . . . .   | 4-30 |
| 4.4.15 Abnormal Printing . . . . .   | 4-31 |
| 4.4.16 Scanned Copy Quality Problems . . . . .                                     | 4-32 |
| 4.5 Document Feeder (ADF) . . . . .  | 4-33 |
| 4.5.1 No Document Feed . . . . .   | 4-33 |
| 4.5.2 Document does not feed or Multiple feeds . . . . .                           | 4-34 |
| 4.5.3 Document Jam (030) or Skewing . . . . .                                      | 4-35 |
| 4.6 Communications . . . . .   | 4-36 |
| 4.6.1 Communication Trouble . . . . .  | 4-36 |



|       |                               |      |
|-------|-------------------------------|------|
| 4.6.2 | Poor Transmitted Copy Quality | 4-37 |
| 4.6.3 | Dialing Problems              | 4-38 |
| 4.6.4 | Transmission Problems         | 4-39 |
| 4.6.5 | Reception Problems            | 4-40 |
| 4.6.6 | Polling Problems              | 4-41 |
| 4.7   | Information Code Table        | 4-42 |
| 4.8   | Diagnostic Codes              | 4-46 |

## **Chapter 5 Test Modes** . . . . . **5-1**

|        |   |      |
|--------|---|------|
| 5.1    | Test Mode Table                                 | 5-2  |
| 5.2    | Test Mode 0 (Page Memory Test)                  | 5-3  |
| 5.3    | Test Mode 1 (Function Parameter Setting)        | 5-4  |
| 5.4    | Test Mode 3 (Function Parameter List Printout)  | 5-10 |
| 5.5.1  | Test Mode 4 (Binary Signal Generation) (UF-770) | 5-12 |
| 5.5.2  | Test Mode 4 (Binary Signal Generation) (UF-880) | 5-13 |
| 5.6    | Test Mode 5 (Tonal Signal Generation)           | 5-14 |
| 5.7    | Test Mode 6 (RAM Initialization)                | 5-15 |
| 5.8    | Test Mode 7 (DTMF Signal Generation)            | 5-16 |
| 5.9    | Test Mode 9 (RAM Test)                          | 5-17 |
| 5.10   | Test Mode 10 (LED/LCD/CCD Test)                 | 5-18 |
| 5.11   | Test Mode 12 (LBP Service Mode)                 | 5-19 |
| 5.11.1 | Printer Report                                  | 5-20 |
| 5.11.2 | Printer Error Code Table                        | 5-21 |
| 5.11.3 | Printer Error Detail Explanation                | 5-22 |

## **Chapter 6 System Description** . . . . . **6-1**

|         |                                   |      |
|---------|-----------------------------------|------|
| 6.1     | Mechanical Operation              | 6-2  |
| 6.1.1   | Transmit Mechanism                | 6-2  |
| 6.1.2   | Receive Mechanism                 | 6-5  |
| 6.1.3   | Printing Process Operation        | 6-8  |
| 6.1.4   | Covers and Enclosures             | 6-12 |
| 6.1.5   | Control Panel                     | 6-12 |
| 6.2     | Electrical Circuit Explanation    | 6-13 |
| 6.2.1.1 | Fax Block Diagram (UF-770)        | 6-13 |
| 6.2.1.2 | Fax Block Diagram (UF-880)        | 6-14 |
| 6.2.2.1 | Signal Routing (UF-770)           | 6-15 |
| 6.2.2.2 | Signal Routing (UF-880)           | 6-20 |
| 6.2.3   | Picture Signal Scanning Block     | 6-27 |
| 6.2.4   | CCD Drive Clock Generator Circuit | 6-29 |
| 6.2.5   | Picture Quality Control Circuit   | 6-30 |
| 6.2.6.1 | Line Monitor Circuit (UF-770)     | 6-31 |
| 6.2.6.2 | Line Monitor Circuit (UF-880)     | 6-32 |
| 6.2.7   | Transmit Motor Control Circuit    | 6-33 |
| 6.2.8.1 | Line Control Board (UF-770)       | 6-34 |
| 6.2.8.2 | Line Control Board (UF-880)       | 6-37 |
| 6.2.9   | SNS PC Board                      | 6-40 |
| 6.2.10  | Control Panel                     | 6-41 |
| 6.2.11  | Printer Motor Driver Circuit      | 6-42 |

|   |      |
|---|------|
| 6.2.12 Interlock Safety Circuit . . . . . | 6-46 |
| 6.2.13 LSU Control Circuit . . . . .      | 6-47 |
| 6.2.14 Power Supply Unit (LVPS) . . . . . | 6-48 |

## **Chapter 7 Exploded View & Parts List . . . . . 7-1**

### **Exploded View**

|   |      |
|---|------|
| 7.1 Cover Assemblies . . . . .          | 7-2  |
| 7.2 Control Panel Unit . . . . .        | 7-3  |
| 7.3 Transmitter Assembly . . . . .      | 7-4  |
| 7.4 Fuser Unit . . . . .                | 7-5  |
| 7.5 Electrical Parts . . . . .          | 7-6  |
| 7.6 Paper Transportation . . . . .      | 7-7  |
| 7.7 250-Sheet Feeder Unit . . . . .     | 7-8  |
| 7.8 250-Sheet Paper Cassette . . . . .  | 7-9  |
| 7.9 500-Sheet Feeder Unit . . . . .     | 7-10 |
| 7.10 500-Sheet Paper Cassette . . . . . | 7-11 |
| 7.11 Packing and Accessories . . . . .  | 7-12 |

### **Parts List**

|   |      |
|---|------|
| 7.1 Cover Assemblies . . . . .          | 7-13 |
| 7.2 Control Panel Unit . . . . .        | 7-18 |
| 7.3 Transmitter Assembly . . . . .      | 7-21 |
| 7.4 Fuser Unit . . . . .                | 7-23 |
| 7.5 Electrical Parts . . . . .          | 7-24 |
| 7.6 Paper Transportation . . . . .      | 7-27 |
| 7.7 250-Sheet Feeder Unit . . . . .     | 7-29 |
| 7.8 250-Sheet Paper Cassette . . . . .  | 7-31 |
| 7.9 500-Sheet Feeder Unit . . . . .     | 7-32 |
| 7.10 500-Sheet Paper Cassette . . . . . | 7-34 |
| 7.11 Packing and Accessories . . . . .  | 7-35 |

## **Chapter 8 Installation . . . . . 8-1**

|   |      |
|---|------|
| 8.1 Function Key . . . . .                                      | 8-3  |
| 8.2 Main Unit and Accessories . . . . .                         | 8-4  |
| 8.3 Installing the Accessories . . . . .                        | 8-5  |
| 8.4 Installing the Toner Cartridge . . . . .                    | 8-6  |
| 8.5 Loading the Recording Paper . . . . .                       | 8-8  |
| 8.6 Connecting the Telephone Line Cord and Power Cord . . . . . | 8-10 |
| 8.7 Customizing Your Machine . . . . .                          | 8-12 |

## **Chapter 9 Options . . . . . 9-1**

|  |      |
|--|------|
| 9.1 Options and Supplies . . . . .   | 9-2  |
| 9.2 Installing Optional Feeder Unit (UE-409057) . . . . .                                    | 9-4  |
| 9.3 Installing Optional Feeder Unit (UE-409056) . . . . .                                    | 9-5  |
| 9.4 Installing Handset Kit (UE-403117) . . . . .   | 9-6  |
| 9.5 Installing Parallel Port Interface Kit (UE-404053AU, UE-404058AU, UE-404059AU) . . . . . | 9-7  |
| 9.6 Installing V24/ENC Interface Kit (UE-404056AU) . . . . .                                 | 9-8  |
| 9.7 Installing 72-Hour Battery Kit (UE-403125AU) . . . . .                                   | 9-10 |

**Chapter 10 Schematic Diagram . . . . . 10-1**

FCB PC Board (UF-770) . . . . . 10-2

FCB PC Board (UF-880) . . . . . 10-14

MDM PC Board . . . . . 10-29

PANEL PC Board . . . . . 10-35

LCU PC Board . . . . . 10-36

CCD PC Board . . . . . 10-39

SNS PC Board . . . . . 10-40

SRU PC Board . . . . . 10-41

LVPS (100V) . . . . . 10-42

LVPS (200V) . . . . . 10-43

# **Chapter 1**

## **General Description**

## **1.1 Overview**

This section covers the features and specifications of the plain paper facsimile transceiver "Panasonic UF-770/880". This fax machine can transmit and receive on the Public Switched Telephone Network (PSTN) in modes conforming to ITU-T / CCITT Group 3 recommendations.

## **1.2 General Features and Functions**

### **(1) Laser Printing**

Clear picture quality is obtained by employing a Laser printing method on plain paper. The machine can print onto A4, Letter or Legal size paper.

### **(2) Quick Scan**

Quick Scan speeds the fax process by scanning and storing documents into memory at a rate of approximately 3 seconds per page (letter/A4 paper size).

### **(3) Easy Maintenance**

This laser printing mechanism only requires changing the toner cartridge, housing the drum, developer and toner.

### **(4) Panasonic Super Smoothing**

The machine incorporates a new sophisticated image processing technology to enhance print quality of ordinary received fax images by smoothing the curved edges of the character.

### **(5) B4 size Scanning**

B4 size is the maximum document width that can be scanned and transmitted.

(Note: 11 inches is the maximum document width that can be loaded into the ADF, however only B4 width will be scanned.

### **(6) Automatic Document Feeder**

An Automatic Document Feeder feeds originals from the document tray automatically, starting with the bottom page.

Capacity: 50 documents of average thickness and of the same size.

|                | Max. Document Size  | Document Thickness |
|----------------|---------------------|--------------------|
| Up to 20 pages | 8.5 × 14 in (Legal) | 0.06 mm to 0.12 mm |
| Up to 50 pages | A4 / Letter Size    | 0.12 mm            |

### **(7) Speedy Transmission**

The use of MMR Coding with ECM achieves faster transmissions. Short Protocol reduces hand-shake time by shortening Phase B and D.

### **(8) Error Correction Mode (ECM)**

An Error Correction Mode, which conforms to ITU-T / CCITT Recommendations, allows error-free data transmission. ECM with MMR Coding also conforms to ITU-T / CCITT Recommendations.

### **(9) Automatic Dialing Function**

Up to 140 stations can be easily dialed by One-Touch Dialing or Abbreviated Dialing Function. Any other stations can be dialed directly from the keypad by entering the full telephone number (up to 32 stations).

### **(10) Memory Transmission**

The contents of a document can be stored into the document memory first, then transmitted from memory. Operator attendance until the transmission ends is not necessary.

### **(11) Multi-station Transmission**

Using the document memory, the document can be transmitted to multiple destinations.

**(12) Multifile Transmission**

It is possible to store multiple documents, each of which could be transmitted to different destinations, into the document memory. Then the unit will transmit them sequentially (Max. number of files : 30 files).

**(13) Deferred Communication**

The 30 built-in 24-hour timers allow the operator to set deferred transmissions or deferred polling. Using document memory, documents can also be transmitted to multiple stations.

**(14) Substitute Reception**

The contents of a document will be received into the document memory if the recording paper or toner runs out, or a recording paper jam occurs during reception. The stored documents can be printed after replacing the recording paper or toner cartridge or correcting a paper jam.

**(15) Dual Operation**

Dual Access operations can store documents and their destinations even during reception or memory transmission. It can also receive during document storage.

**(16) Halftone**

For transmission, this function ensures high quality reproduction of gray-shaded or photographic documents. This machine uses 64 levels of error diffusion to create halftones, with Quality and Fast mode.

**(17) Copy Function**

The Copy function allows the machine to be used as a copier. Using the document memory, up to 99 copies can be made of a single original.

**(18) 100 Transaction Journal**

The 100 Transaction Journal provides transaction information — number of pages transmitted or received, start date and time, communication results, identification, etc. It is automatically printed after every 100 transactions, or it can be printed manually at anytime.

**(19) Latest Individual Transmission Journal**

The latest Individual Transmission Journal provides information on the last transmission — number of pages transmitted, start date and time, communication results, identification, etc. It can be printed manually at anytime after communications.

**(20) Communication Journal**

A communication journal is a result report of a communication which can be printed automatically after communication is completed. Printout conditions can be selected for each communication to 1) not print, 2) always print or 3) print when communication has failed.

**(21) Multi-purpose LCD Display**

The 20 × 2 alphanumeric LCD display shows operation mode, date and time, remote ID number, and pages transmitted or received. In case of an error, the LCD display shows an information code and error message indicating the exact cause of trouble.

**(22) Verification Stamp**

The Verification Stamp is automatically stamped on the original document when the document is transmitted or stored in memory successfully. The "⊗" mark appears at the bottom of each page.

**(23) Password Transmission**

A password transmitted from the other party is checked to prevent the transmission of documents to an unauthorized station.

**(24) Password Reception**

A password transmitted from the other party is checked to prevent the reception of documents by an unauthorized station. The reception of a direct mail, etc., is preventable.

**(25) Fax Access Code**

The Fax Access Code can be registered into the machine to prevent operation by an unauthorized user.

**(26) Selective Reception**

To prevent unwanted faxes from being received, the machine compares the ID Number of the transmitting machine with the telephone number stored in the built-in automatic telephone dialer.

**(27) Receive to Memory**

Users can set the unit to store incoming documents into its available memory. Later, using a 4-digit password, stored documents can be printed when the user is present. This function helps ensure that important documents are not read or lost while they are sitting unattended in the fax tray.

**(28) Relay Transmission Request**

By setting the machine as an initial sending station, the unit is capable of setting up a relay request to a central hub machine with a network password. Documents can then be automatically transmitted to the end receiving stations. This model is designed to operate as an initial sending station.

**(29) Confidential Transmission and Polling**

The documents can be transmitted to a predetermined destination with a 4-digit confidential code utilizing the Confidential Mailbox function. Stored messages in the Confidential Mailbox machine can be polled by the receiver at the destination terminal.

**(30) Confidential Mailbox**

When the received message is stored into the memory with a 4-digit confidential code, the message can be printed on recording paper or polled by a remote station. A maximum of 10 mailboxes can be used. A remote confirmation report such as Confidential Memory Report and/or Confidential XMT Report is not transmitted to the source station and/or the remote station after Confidential Mailbox reception or polling transmission.

**(31) Remote Diagnostic Function**

The remote Diagnostic Function can be used to diagnose the unit remotely over the PSTN or equivalent. A new host system is required for high speed remote diagnostics to be available.

**(32) Check and Call Function**

This feature enables the Authorized Servicing Dealers to manage and improve the Fax machine maintenance to their customers by alerting them of equipment problems. It also can be used as a Supply Sales Tool by alerting the Dealer that the unit is running Low on Toner. The function overview is as follows:

- 1) The machine's printer error information is stored in the Printer Report.
- 2) The printer report can be manually printed when required.
- 3) When printer errors occur, the unit can automatically transmit the Service Alert Report to the pre-registered telephone number.
- 4) When the unit detects Low Toner, it can automatically transmit the Maintenance Alert Report to the pre-registered telephone number.

**(33) Multiple LOGO**

This operation allows the user to select one of the 25 preset LOGOs before a Transmission. The selected LOGO is printed on the Header of each page sent, Cover Sheet, COMM. Journal and Individual Journal.

## (34) Department Code

This operation requires the user to input a preset 4-digit Department Code before transmission. The Department Name of the selected Department Code is printed on the Header of each page sent, Cover Sheet, COMM. Journal and Individual Journal. When the Department Code is set, the Transaction Journal will be sorted by the Department Code number when it is printed.

If you wish to prevent unauthorized persons from setting, changing or erasing Department Code settings, you should set the Fax Access Code to restrict these settings.

**1.3 General Specifications**

## (1) Communication Facility

Public Switched Telephone Network (PSTN)

## (2) Line Coupling

Direct Coupling

## (3) Input Level

-5 to -43 dbm

## (4) Output Level

0 to -15 dbm

## (5) Control Procedure

ITU-T / CCITT Rec.T.30

MGCS proprietary short protocol

## (6) Modem Speed

V.34 : 33600~2400 bps @2400 step (QAM with TCM) UF-880 only

V.17 : 14400, 12000, TC9600 TC7200 bps (QAM with TCM)

V.33 : 14400, 12000 bps (QAM with TCM)

V.29 : 9600, 7200 bps (QAM)

V.27ter : 4800, 2400 bps (PhM)

## (7) Coding Scheme

MH (Modified Huffman)

MR (Modified Read)

MMR (Modified Modified Read)

JBIG (Joint Bi-level Experts Group) UF-880 only

## (8) Communication Resolution

<Transmission>

Standard : 203 dpi × 98 lpi (8 pels/mm × 3.85 lines/mm)

Fine : 203 dpi × 196 lpi (8 pels/mm × 7.7 lines/mm)

Super Fine : 203 dpi × 391 lpi (8 pels/mm × 15.4 lines/mm)

<Reception>

Standard : 203 dpi × 98 lpi (8 pels/mm × 3.85 lines/mm)

Fine : 203 dpi × 196 lpi (8 pels/mm × 7.7 lines/mm)

## (9) Halftone

64 Levels, Error Diffusion

## (10) Error Correction Mode

ITU-T / CCITT Rec. T.30 ECM (MMR)



**(11) Image Memory Capacity**

- Standard (Base) : 70 pages
- Option (Additional) : 85 pages (1M byte : UE-410006)  
165 pages (2M byte : UE-410007)  
335 pages (4M byte : UE-410008)  
670 pages (8M byte : UE-410029)

(using ITU-T Image No. 1 in Standard Resolution)

**(12) Transmission Speed**

UF-770 : 6 seconds using ITU-T Image No. 1 in Standard Resolution, memory to memory communication.

UF-880 : 3 seconds using ITU-T Image No. 1 in Standard Resolution, memory to memory communication.

**(13) Automatic Dialing**

- Dialing Signal : 10PPS/20PPS/DTMF
- Dialing Method
- One-Touch Dialing : Up to 40 keys (including 8 programmable keys)
- Abbreviated Dialing : Up to 100 stations
- Manual Number Dialing : Up to 32 stations
- (Direct Dialing) : (Up to 36 digits including pauses)
- Programmable Dialing : Up to 8 programmable keys
- Combination Dialing : Combination of One-Touch, Abbreviated and Manual Number Dialing
- Multi-Station Dialing : Multi-Station Transmission/Polling  
Up to 172 stations  
Deferred Multi-Station Transmission/Polling  
Up to 172 stations

Registration Memory Capacity in One-Touch and Abbreviated Dialing

- Number of Stations : Up to 140 stations
- Telephone number : Up to 36 digits (Including pauses and spaces)  
of each station
- Station name : Up to 15 characters  
for each station

Redialing

- Automatic : Up to 15 times with 0 to 15 minute intervals
- Manual : By pressing the Redial button (last number dialed)

**(14) Print Reduction Ratio**

- A4 / Letter : 70 to 100% in 1% steps
- Legal : 85 to 100% in 1% steps (according to the received document length)

**(15) Rechargeable Battery Backup Period**

- S-RAM Memory (Tel No., ID, logo, etc.) : Up to 10 days
- D-RAM Memory (Document Memory) : Up to 1 hour (Up to 72 hours : UE-403125)

Note : The backup period listed are with the battery fully charged.

## 1.4 Scanner Specifications

### (1) Document Dimensions

|        |   |         |        |
|--------|---|---------|--------|
| Width  | : | Minimum | 148 mm |
|        |   | Maximum | 280 mm |
| Length | : | Minimum | 128 mm |
|        |   | Maximum | 356 mm |

Note : With operator's assistance, a maximum of 2,000 mm length document can be sent (one page at a time)

### (2) Automatic Document Feeder

The Automatic Document Feeder feeds the originals from the document tray automatically, starting with the bottom page.

|                 |   |              |                            |
|-----------------|---|--------------|----------------------------|
| Paper thickness | : | Single-page  | : 0.06 to 0.15 mm          |
|                 |   | Multi-page   | : 0.06 to 0.12 mm          |
| Capacity        | : | 20 documents | : Up to Legal Size (20 lb) |
|                 | : | 50 documents | : A4 / Letter Size (20 lb) |

### (3) Scanning Method

|            |   |   |
|------------|---|---|
| Horizontal | : | Sheet Feeding with CCD type image sensor. |
| Vertical   | : | Stepper Motor feeding                     |

### (4) Effective Scanning Width

9.9 in (252 mm)

### (5) Scanning Resolution

|            |   |                          |                     |
|------------|---|--------------------------|---------------------|
| Standard   | : | 8 pels/mm × 3.85 line/mm | (203 dpi × 98 lpi)  |
| Fine       | : | 8 pels/mm × 7.7 line/mm  | (203 dpi × 196 lpi) |
| Super Fine | : | 8 pels/mm × 15.4 line/mm | (203 dpi × 391 lpi) |

### (6) Contrast Selection

3 steps (Normal / Lighter / Darker)

## 1.5 Printer Specifications

### (1) Recording Paper Size (W× L)

|        |   |                 |
|--------|---|-----------------|
| Letter | : | 216 mm × 279 mm |
| Legal  | : | 216 mm × 356 mm |
| A4     | : | 210 mm × 297 mm |

### (2) Recommended Recording Paper Weight

60 to 90 g/m<sup>2</sup>

### (3) Paper Capacity with standard cassette

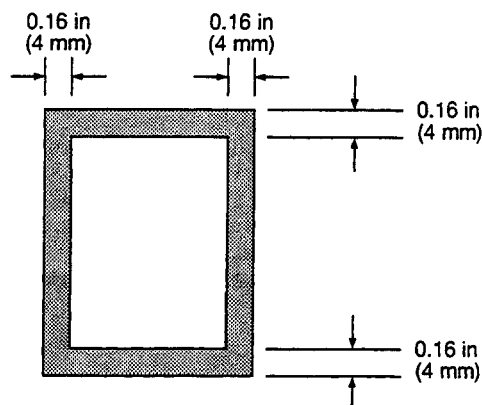
250 sheets (0.01 mm/sheet)

### (4) Printing Resolution

406.4 dpi × 391.16 dpi

### (5) Non Printable Margin

The shaded areas represent the unprintable area on the recording paper.



**(6) Printing Speed**

10 ppm (6 seconds/page)

**(7) Fuser Warm Up Time**

Within 70 seconds after turning the power on. [Room Temperature : 20 to 35°C]

## 1.6 Power

**(1) Power Requirement**

90~138 VAC, 47~63Hz, Single Phase : 100V version  
 180~264 VAC, 47~63 Hz, Single Phase : 200V version

**(2) Power Consumption**

|                            |   |  |
|----------------------------|---|--|
| Max                        | : | Approx. 460 W  |
| Reception                  | : | Approx. 460 W  |
| Copy                       | : | Approx. 460 W  |
| Transmission               | : | Approx. 20 W   |
| Standby (Power Save : On)  | : | UF-770: Approx. 8 W/H (100V version), 11 W/H (200V version)  |
|                            | : | UF-880: Approx. 10 W/H (100V version), 11 W/H (200V version) |
| Standby (Power Save : Off) | : | Approx. 84 W/H   |

[Room temperature : 25°C]

## 1.7 Environment

**(1) Operating Environment**

|                   |   |  |
|-------------------|---|--|
| Temperature       | : | 10 to 35°C                                       |
| Relative Humidity | : | 15 to 70% RH                                     |
| Tilt              | : | The unit must be kept on an even, level surface. |

**(2) Storage Environment (Carton Box Condition)**

|                   |   |             |
|-------------------|---|-------------|
| Temperature       | : | -20 to 40°C |
| Relative Humidity | : | 5 to 85% RH |

Note: The machine should be stored upright.

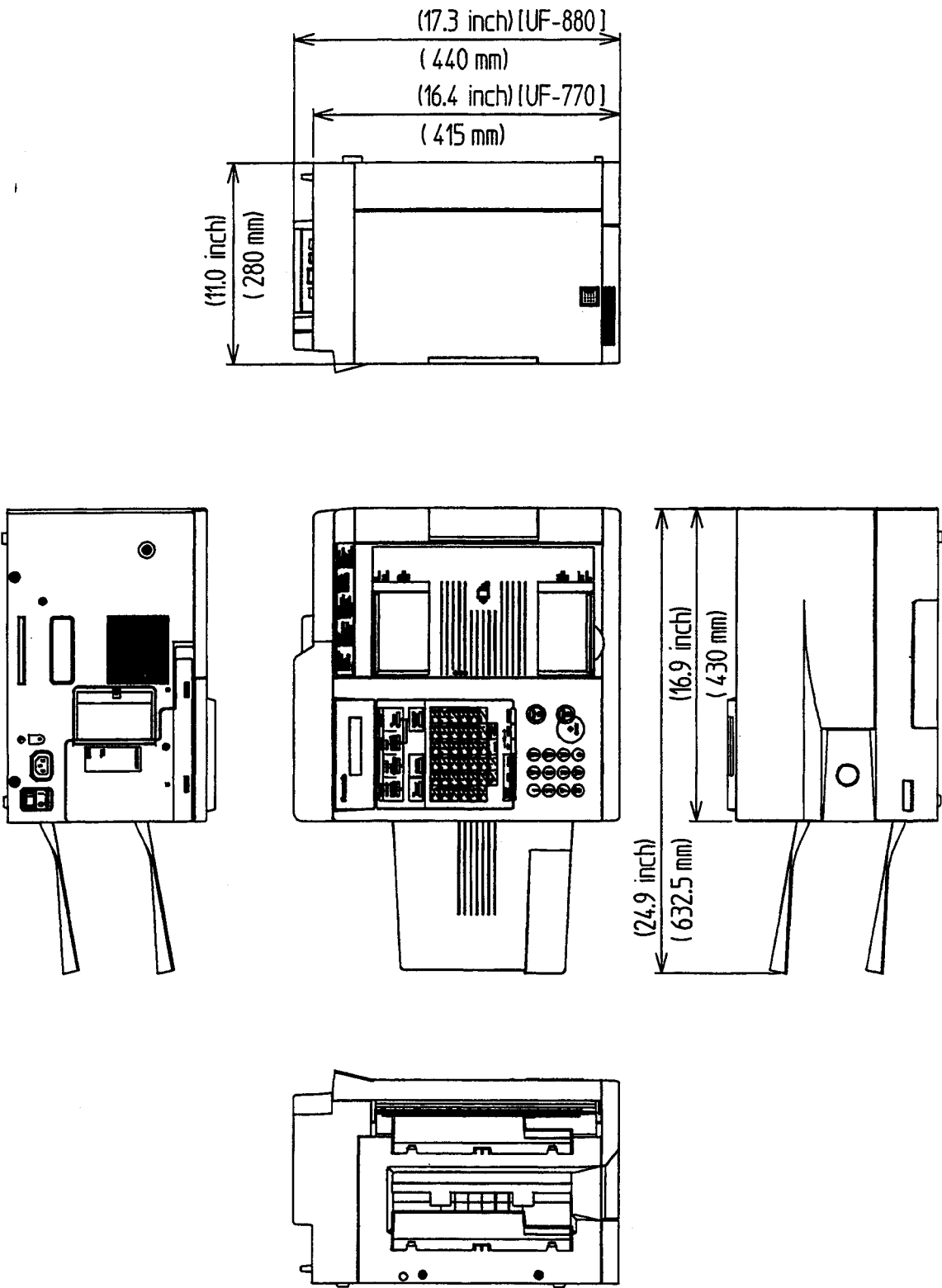
**(3) Transportation Environment (Max. 480 hours, Carton Box Condition)**

|                   |   |              |
|-------------------|---|--------------|
| Temperature       | : | -20 to 50°C  |
| Relative Humidity | : | 15 to 85% RH |

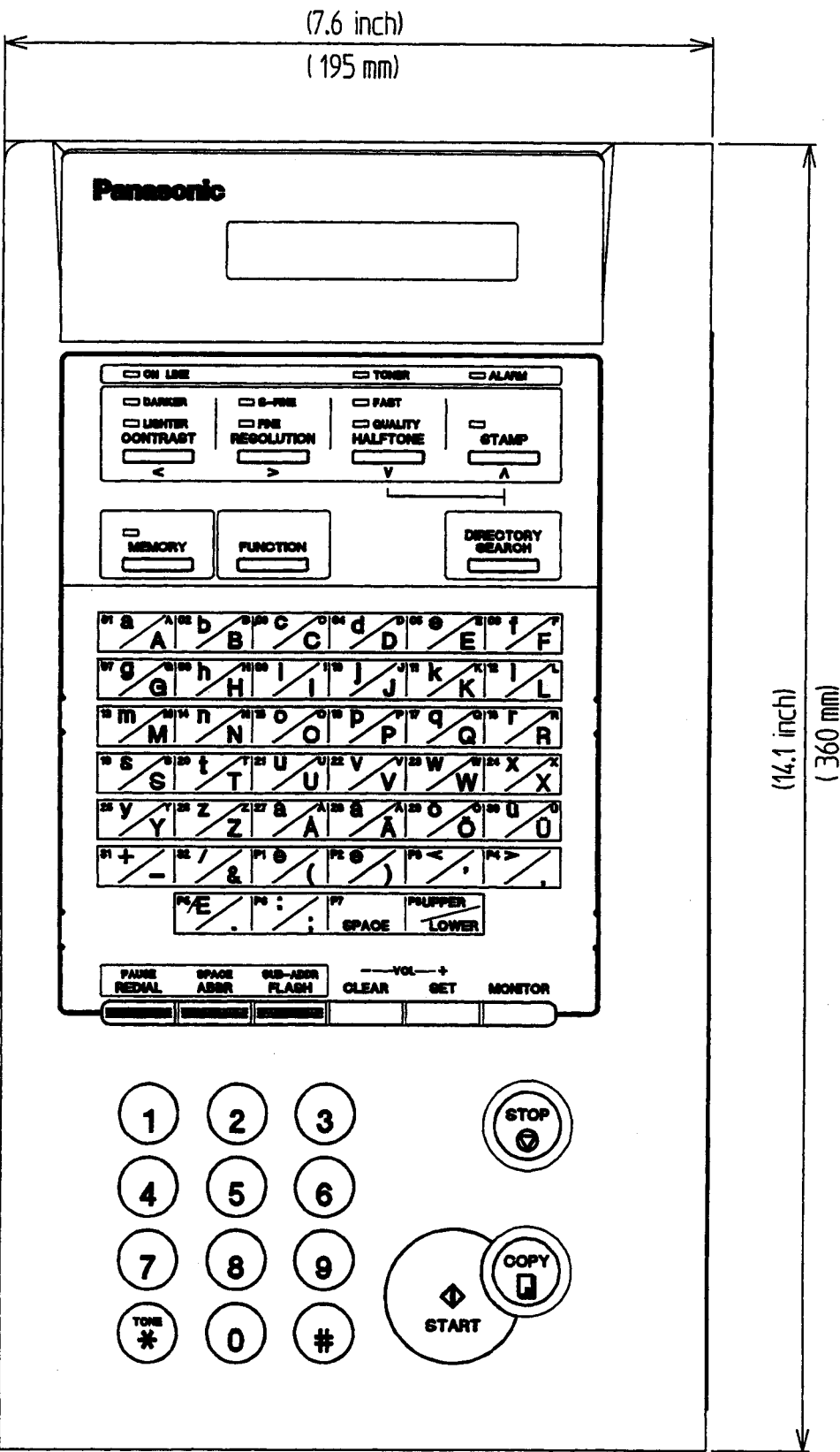
## 1.8 Construction

|                          |                            |
|--------------------------|----------------------------|
| Dimensions (W × D × H)   | UF-770: 430 × 415 × 280 mm |
|                          | UF-880: 430 × 440 × 280 mm |
| Weight (excluding paper) | Approximately 15 kg        |

External View



Control Panel



## 1.9 Function Table

| Items   | UF-770   | UF-880               |
|---|--|----------------------|
| <b>MAIN SPECIFICATION</b>                                     |  |                      |
| Compatibility   | G3   | ←                    |
| Modem Speed (kbps)  | 14.4 / 12 / 9.6 / 7.2 / 4.8 / 2.4  | 33.6~2.4             |
| Coding Scheme   | MH / MR / MMR  | MH / MR / MMR / JBIG |
| ECM (Conforms to ITU-T CCITT)                                 | Yes (MMR)  | Yes (MMR / JBIG)     |
| MWS   | No   | ←                    |
| Short Protocol  | Yes (B)  | ←                    |
| Transmission Speed<br>(ITU-T Image No. 1)                     | 6 Seconds  | 3 Seconds            |
| Communication Resolution (lpi)<br>(Conforms to ITU-T / CCITT) | Tx      203 × 98<br>203 × 196<br>Rx      203 × 391<br>203 × 98<br>203 × 196  | ←                    |
| <b>SCANNER MECHANISM</b>                                      |  |                      |
| ADF Capacity  | 50 sheets  | ←                    |
| Max.Document Size   | 280 × 2,000 mm   | ←                    |
| Min.Document Size   | 148 × 128 mm   | ←                    |
| Effective Scanning Width                                      | 252 mm   | ←                    |
| Scanning Device   | CCD (B4)   | ←                    |
| Scanning Resolution   | 203 × 98 lpi (8 pels × 3.85 lines/mm)<br>203 × 196 lpi (8 pels × 7.7 lines/mm)<br>203 × 391 lpi (8 pels × 15.4 lines/mm) | ←                    |
| Scanning Speed (A4 size document)                             | Approx. 2.8 seconds  | ←                    |
| Reduction XMT   | Yes (B4 → A4/Letter)   | ←                    |
| Collation Stack   | Yes  | ←                    |
| <b>PRINTER MECHANISM</b>                                      |  |                      |
| Recording Method  | LBP  | ←                    |
| Recording Paper Size  | A4/Letter/Legal  | ←                    |
| Recording Paper Capacity                                      | 250 sheets (Cassette)  | ←                    |
| Optional Recording Paper Cassette                             | Yes (250 or 500 or 250 + 500 sheets)   | ←                    |
| Effective Printing Width                                      | Letter    208 mm<br>A4        202 mm   | ←                    |
| Recording Resolution  | 406 × 391 dpi  | ←                    |
| Recording Speed   | 10 ppm (6 sec/page)  | ←                    |
| Heater Timer (Inc. Fan Timer)                                 | Yes  | ←                    |
| Collation Stack   | Yes (Memory)   | ←                    |
| Cassette Size Detector  | Yes  | ←                    |
| <b>DOCUMENT MEMORY</b>  |  |                      |
| Document Memory Capacity                                      | 70 pages (1MB)   | ←                    |
| Optional Document Memory                                      | Yes (1 MB, 2 MB, 4 MB or 8 MB)   | ←                    |
| Document Memory Backup  | Yes (1 hour)   | ←                    |
| Optional Document Memory Backup                               | Yes (72 hour)  | ←                    |
| <b>COPY QUALITY</b>   |  |                      |
| ABC   | Yes  | ←                    |
| Contrast Selection  | Yes (3 levels) [New Type]  | ←                    |
| Halftone  | 64 levels, Error Diffusion,<br>Fast or Quality Mode  | ←                    |
| Super Fine (lpi)  | S-Fine (203 × 391) [Tx only]   | ←                    |
| Smoothing   | Yes  | ←                    |
| <b>DUAL OPERATIONS</b>  |  |                      |
| Dual Operation  | Yes  | ←                    |
| Direct XMT Reserve  | Yes  | ←                    |

| Items                               | UF-770  | UF-880 |
|-------------------------------------|---|--------|
| Memory XMT Reserve                  | Yes   | ←      |
| <b>DIALING FEATURES</b>             |   |        |
| One-Touch Keys                      | 32  | ←      |
| One-Touch/Program Keys              | 8   | ←      |
| Auto dialing locations              | 140   | ←      |
| One-Touch Auto Dialing              | 40  | ←      |
| Abbr. Auto Dialing                  | 100   | ←      |
| Max. digits on AD                   | 36  | ←      |
| Max. ID characters on AD            | 15  | ←      |
| Alternative Abbr. Dialing           | No  | ←      |
| Full Number Dialing                 | 32 stations   | ←      |
| Redialing                           | Yes   | ←      |
| Combination Dialing                 | Yes   | ←      |
| Directory Search Dialing            | Yes   | ←      |
| Line Monitor Speaker                | Yes   | ←      |
| Pulse/Tone change                   | Yes   | ←      |
| Flash Key                           | Yes   | ←      |
| <b>TRANSMISSION FEATURES</b>        |   |        |
| Memory Transmission                 | Yes   | ←      |
| Multi-Station Transmission          | Yes (172 stations)  | ←      |
| Multifile Transmission              | Yes (30 files)  | ←      |
| Deferred Transmission               | Yes (30 timers)   | ←      |
| Deferred Multi-Station Transmission | Yes (30 timers, 172 stations)                                   | ←      |
| Priority Transmission               | Yes (ADF TX Reserve)  | ←      |
| Batch Transmission                  | No  | ←      |
| Cover Sheet                         | Yes   | ←      |
| <b>RECEPTION FEATURES</b>           |   |        |
| Substitute Memory Reception         | Yes   | ←      |
| Auto Reduction to A4 / Letter       | Yes (70-100%)   | ←      |
| Auto Reduction to Legal             | Yes (85-100%) Automatic Reduction                               | ←      |
| Overlapping Print                   | Yes   | ←      |
| Fax/Tel Auto Switch                 | No  | ←      |
| TAM Interface                       | No  | ←      |
| Parallel TAM hookup                 | No  | ←      |
| Receive to Memory                   | Yes   | ←      |
| Remote Reception                    | No  | ←      |
| Distinctive Ring Detector           | Yes   | ←      |
| <b>POLLING FEATURES</b>             |   |        |
| Polling                             | Yes   | ←      |
| Turnaround Polling                  | No  | ←      |
| Multi-Station Polling               | Yes (172 stations)  | ←      |
| Continuous Polling Tx               | Yes (Station mode)  | ←      |
| Continuous Polling Rx               | Yes   | ←      |
| Deferred Polling                    | Yes (30 timers)   | ←      |
| Deferred Multi-Station Polling      | Yes (30 timers, 172 stations)                                   | ←      |
| Direct Polling TX                   | Yes (Select the function by parameter 03 "Continuous Polling".) | ←      |
| Memory Polling TX                   | Yes (1 file)  | ←      |
| Preset Polling Password             | Yes   | ←      |

| Items                             | UF-770                       | UF-880 |
|-----------------------------------|------------------------------|--------|
| Temporary Polling Password        | Yes                          | ←      |
| <b>COPY FUNCTIONS</b>             |                              |        |
| Single Copy                       | Yes                          | ←      |
| Multiple Copy                     | Yes (99 copies)              | ←      |
| Reduction Copy                    | Yes                          | ←      |
| Copying Resolution                | 203 × 196 lpi                | ←      |
| <b>CERTAINTY</b>                  |                              |        |
| Verification Stamp                | Yes                          | ←      |
| Header / Total Page Print         | Yes                          | ←      |
| Comm. Journal                     | Yes (w / Image)              | ←      |
| Transaction Journal               | Yes (100)                    | ←      |
| Last Individual XMT Journal       | Yes                          | ←      |
| View Mode                         | Yes                          | ←      |
| <b>LIST PRINTOUTS</b>             |                              |        |
| One-Touch List                    | Yes                          | ←      |
| Abbr. No. List                    | Yes                          | ←      |
| Program List                      | Yes                          | ←      |
| Directory Search List             | Yes                          | ←      |
| Fax Parameter List                | Yes                          | ←      |
| File List                         | Yes                          | ←      |
| Character Code List               | No                           | ←      |
| Directory Sheet                   | Yes                          | ←      |
| Callback Message                  | No                           | ←      |
| <b>IDENTIFICATIONS</b>            |                              |        |
| Logo/TTI                          | 25 characters                | ←      |
| Characters ID                     | 16 characters                | ←      |
| Numeric ID                        | 20 digits                    | ←      |
| <b>SPECIAL COMM.</b>              |                              |        |
| Password XMT/RCV (Closed Network) | Yes                          | ←      |
| Selective Reception (TSI check)   | Yes                          | ←      |
| Relay XMT Request                 | Yes                          | ←      |
| Relay XMT Center                  | No                           | ←      |
| Confidential XMT/Polling          | Yes                          | ←      |
| Confidential Comm. Center         | No                           | ←      |
| Mailbox XMT/Polling               | Yes                          | ←      |
| Mailbox Center                    | Yes (10 boxes)               | ←      |
| OMR-XMT                           | Yes                          | ←      |
| Sub-Address XMT                   | Yes (T. Routing)             | ←      |
| Sub-Address RCV                   | Yes (T. Routing with PC I/F) | ←      |

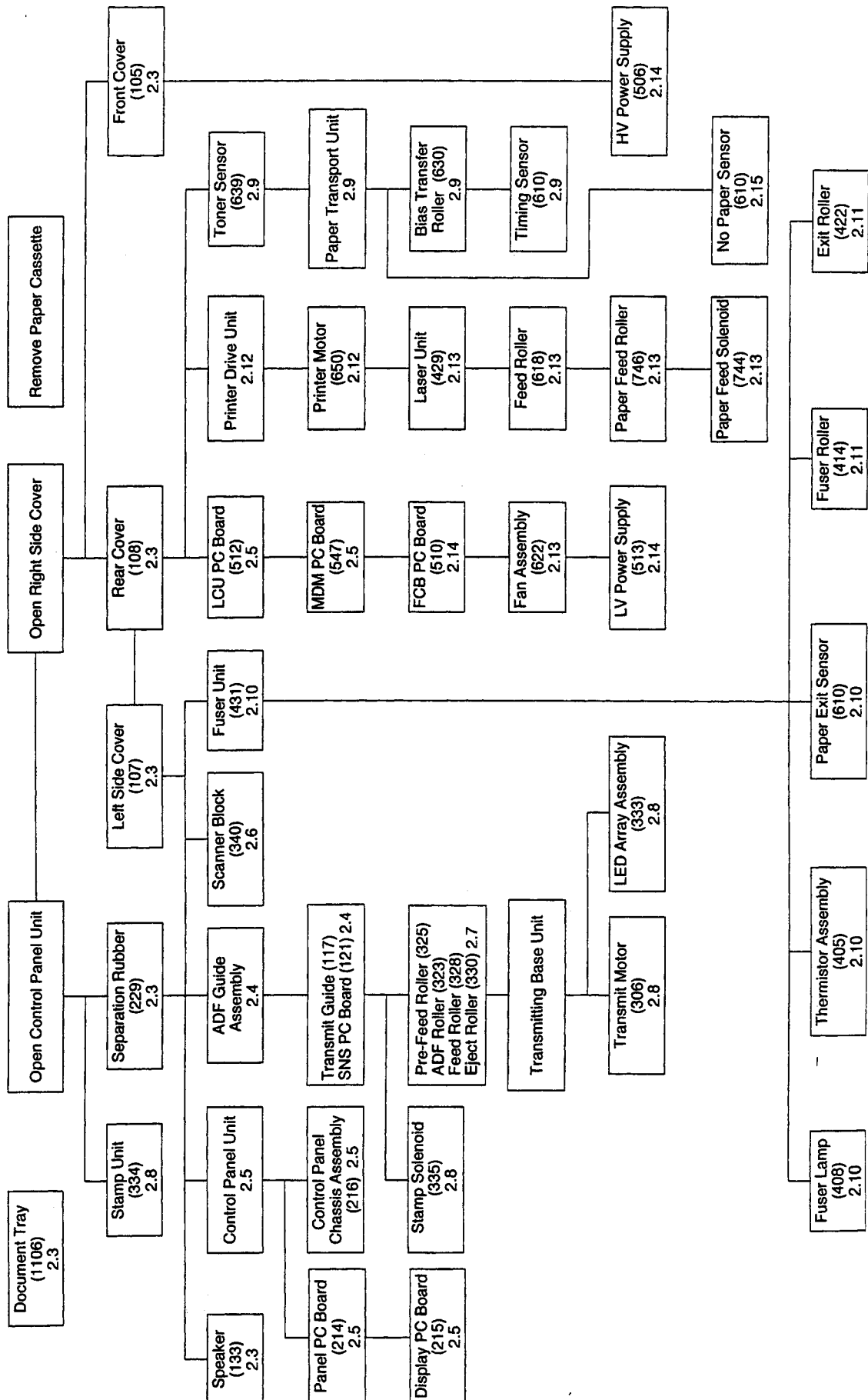


| Items                      | UF-770                  | UF-880             |
|----------------------------|-------------------------|--------------------|
| <b>OTHERS</b>              |                         |                    |
| Fax Access Code            | Yes                     | ←                  |
| Department Code            | Yes                     | ←                  |
| Panel Display              | 20 × 2 Alphanumeric LCD | ←                  |
| Logo Input Method          | Character Keys          | ←                  |
| Remote Diagnostic Function | Yes                     | ←                  |
| Internal Demo              | No                      | ←                  |
| 2-W Leased Line            | No                      | ←                  |
| AI Redial                  | Yes (Up to 2 files)     | ←                  |
| Auto Multi-copy            | No                      | ←                  |
| Auto-Forwarding            | Yes                     | ←                  |
| Check & Call Function      | Yes                     | ←                  |
| <b>OPTIONS</b>             |                         |                    |
| Printer Interface          | Yes                     | ←                  |
| Encryption Interface       | Yes                     | No                 |
| V24 Interface              | Yes                     | No                 |
| PC Interface               | Yes                     | ←                  |
| <b>CONSTRUCTION</b>        |                         |                    |
| Telephone Handset          | No (Optional)           | ←                  |
| Dimensions (W × D × H)     | 430 × 415 × 280 mm      | 430 × 440 × 280 mm |
| Weight                     | 15 kg                   | ←                  |

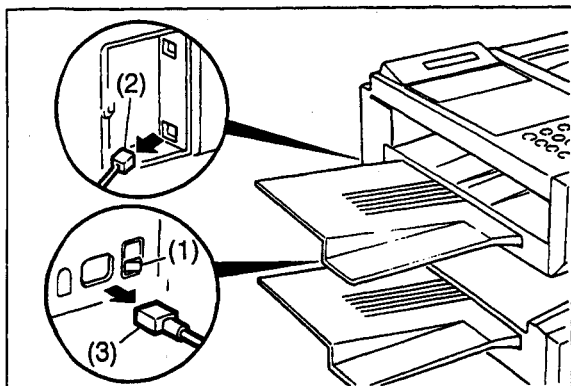
## **Chapter 2**

# **Disassembly**

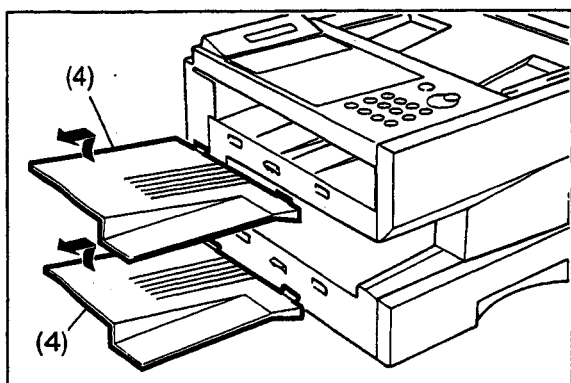
## 2.1 General Disassembly Flowchart



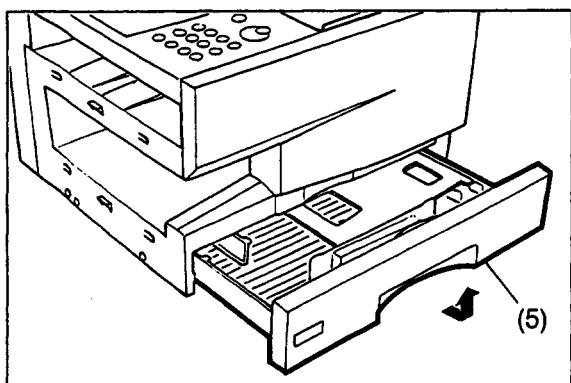
## **2.2 Document Tray (1106), Paper Cassette (815)**



- (1) Turn the **Power Switch** "OFF".
- (2) Disconnect the **Line Cord** (907).
- (3) Disconnect the **Power Cord** (908).

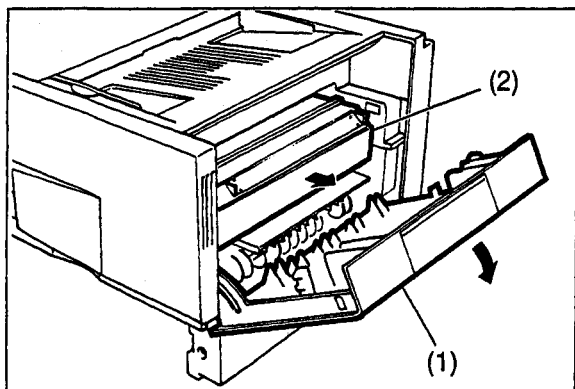


- (4) Remove the **Document Trays** (1106).

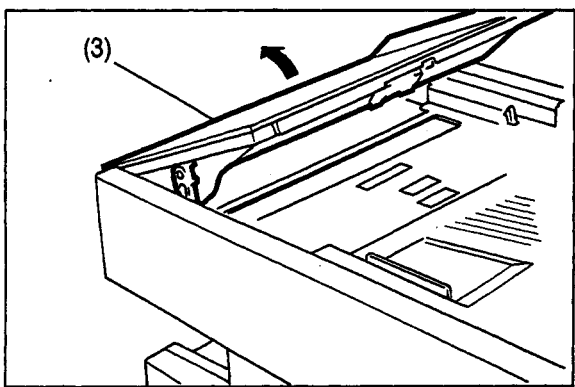


- (5) Remove the **Paper Cassette** (815).

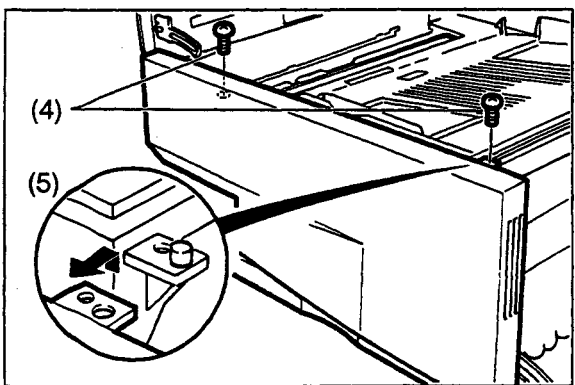
### 2.3 Front Cover (105), Rear Cover (108), Left Side Cover (107)



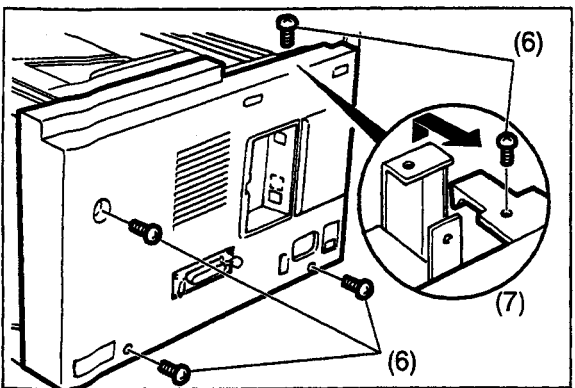
- (1) Open the **Printer Cover** (122).
- (2) Remove the **Toner Cartridge**.



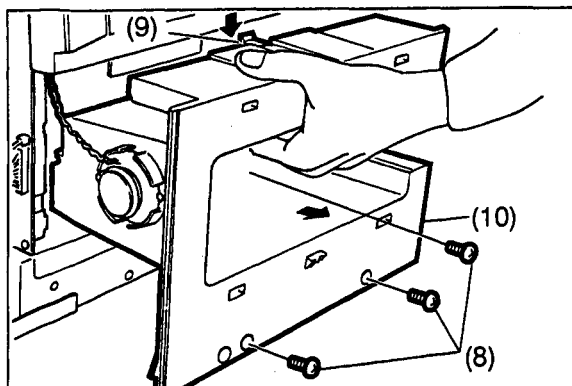
- (3) Open the **Control Panel Unit**.



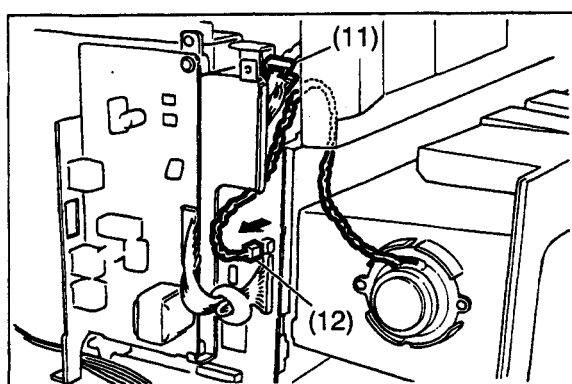
- (4) Two **Screws** (B1)
- (5) Release hook and remove the **Front Cover** (105).



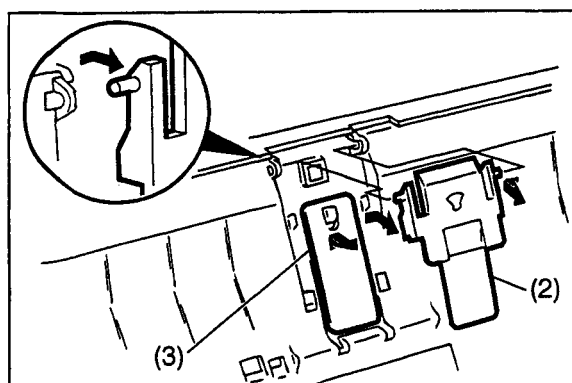
- (6) Four **Screws** (B1)
- (7) Release hook and remove the **Rear Cover** (108).



- (8) Three **Screws** (B1)
- (9) Hold in the center and release Latch Hook.
- (10) Remove the **Left Side Cover** (107).

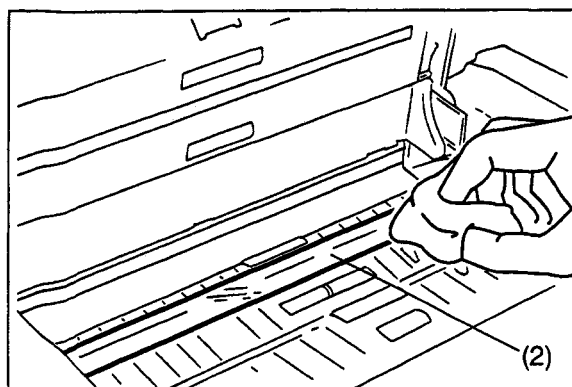


- (11) Remove Speaker Cable from the clamp.
- (12) Disconnect Connector CN8.



**Cleaning Separation Rubber (229)**

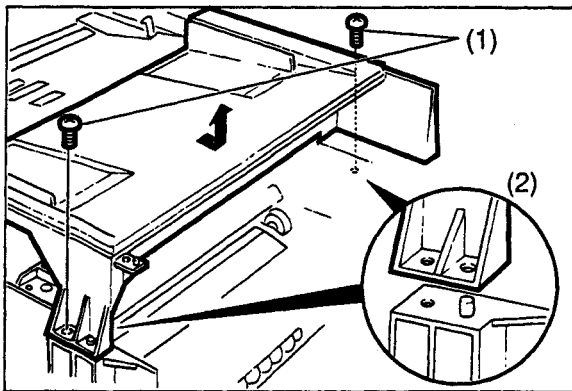
- (1) Open the **Control Panel Unit**.
- (2) Remove the **Pre-Feed Cover** (223).
- (3) Remove the **Separation Rubber** (229).
- (4) Clean the **Separation Rubber** (229) with a soft cloth, soaked with isopropyl alcohol.



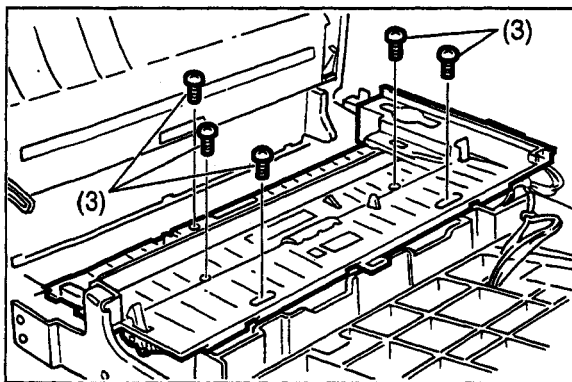
**Cleaning Scanning Glass (341)**

- (1) Open the Control Panel Unit.
- (2) Clean the **Scanning Glass** (341) with a soft cloth, soaked with isopropyl alcohol.

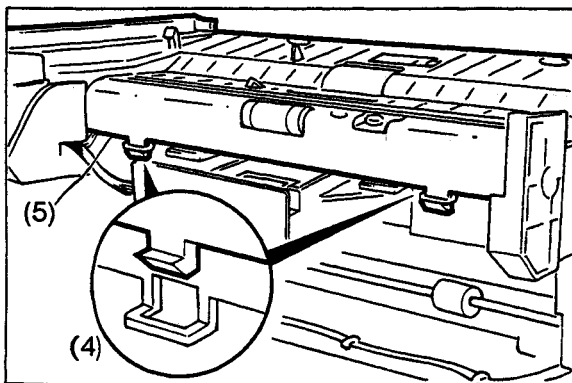
## 2.4 ADF Guide Assembly, Transmit Guide (117)



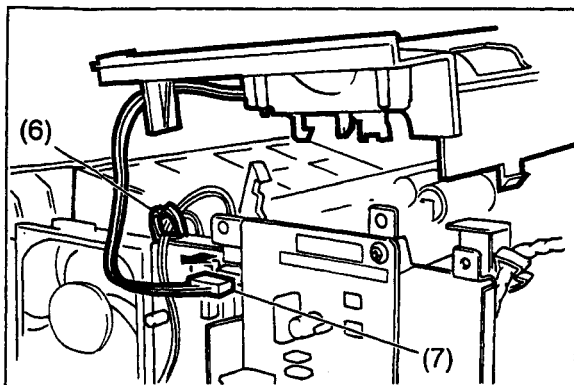
- (1) Two **Screws** (19)
- (2) Remove the **ADF Guide Assembly**.



- (3) Five **Screws** (19)

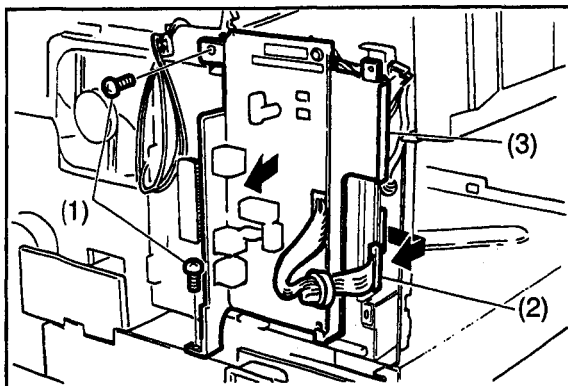


- (4) Release two Latch Hooks.
- (5) Remove the **Transmit Guide** (117).

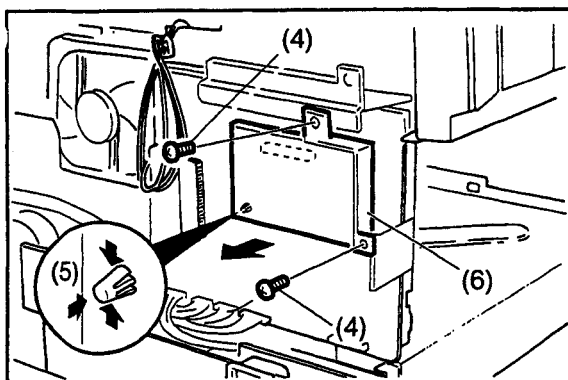


- (6) Remove Sensor Cable from the clamp.
- (7) Disconnect Connector CN3.

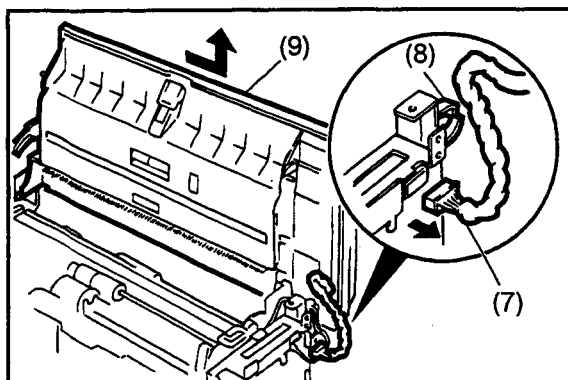
## 2.5 LCU PC Board (512), MDM PC Board (547), Control Panel Unit, Panel PC Board (214), Display PC Board (215)



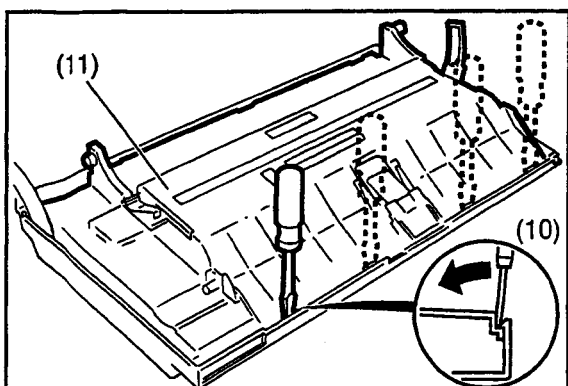
- (1) Two **Screws** (19)
- (2) Disconnect Connector CN7 (UF-880: CN42).
- (3) Remove the **LCU PC Board** (512) with bracket.



- [For UF-770, skip to step 7]
- (4) Two **Screws** (C8).
- (5) Pinch **Locking Spacer** (546).
- (6) Remove the **MDM PC Board** (547) with bracket.



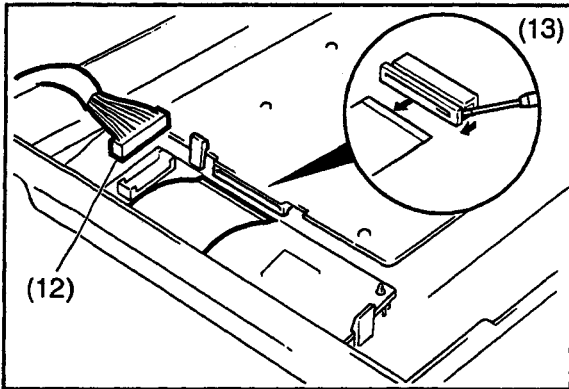
- (7) Disconnect Connector CN5.
- (8) Remove Cable from the clamp.
- (9) Remove the **Control Panel Unit**.



- (10) Release four Latch Hooks.
- (11) Remove the **Control Panel Chassis Assembly** (216).

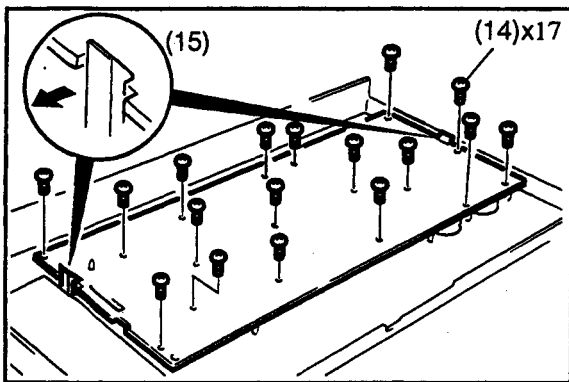
Continued on the next page.





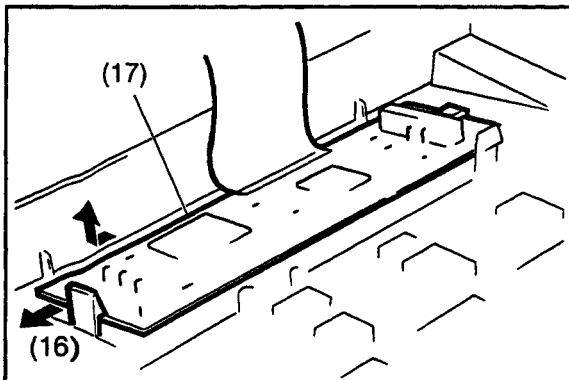
(12) Disconnect Connector CN1.

(13) Release Lock from both sides of Connector CN42 and disconnect the Flat Cable.



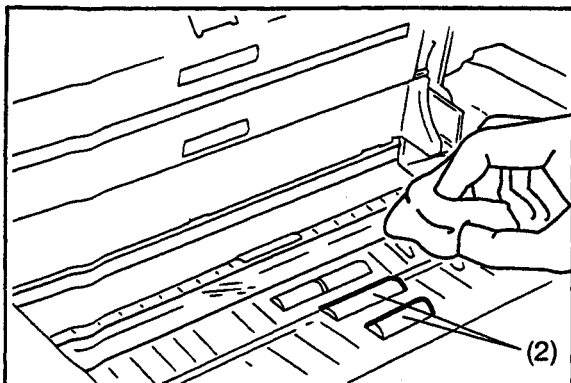
(14) 17 **Screws** (7B)

(15) Release two Latch Hooks and Remove the **Panel PC Board** (214).



(16) Release Latch Hook.

(17) Remove the **Display PC Board** (215).

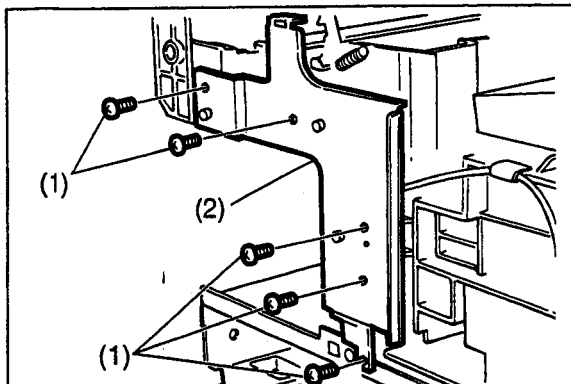


**Cleaning ADF Roller (323), Pre-Feed Roller (325)**

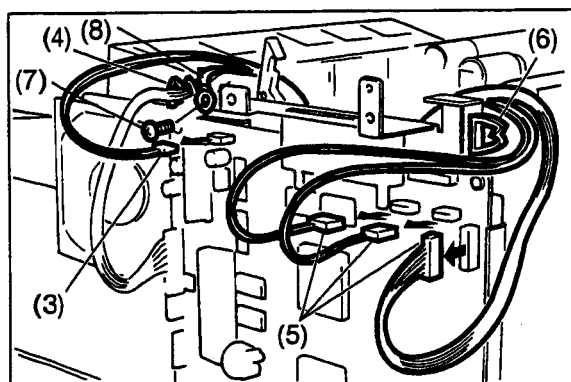
(1) Open the Control Panel Unit.

(2) Clean the **ADF Roller** (323), **Pre-Feed Roller** (325), **Eject Roller** (330) and **Feed Roller** (328) with a soft cloth, soaked with isopropyl alcohol.

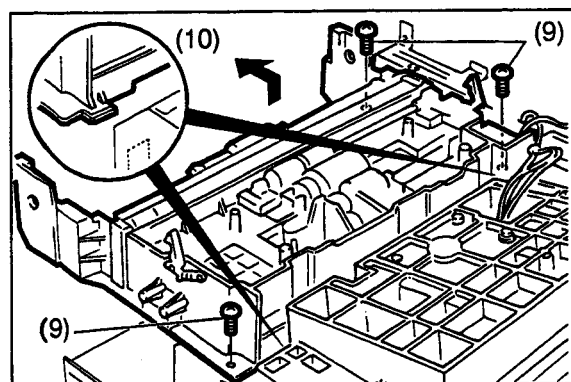
## 2.6 Transmitting Base Unit, Scanner Block (340)



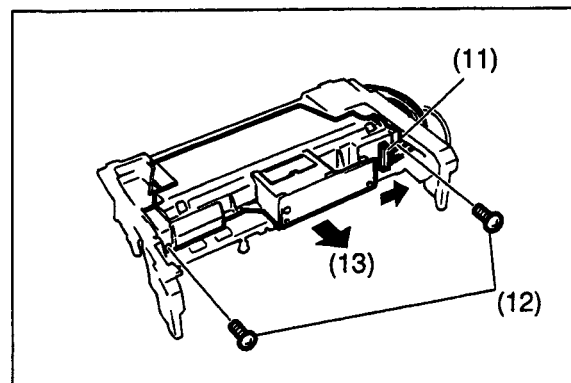
- (1) Five **Screws** (19)
- (2) Remove the **Transmitter Plate** (116).



- (3) Disconnect Connector CN9.
- (4) Remove Cable from the clamp.
- (5) Disconnect Connector CN10, 11 and 12.
- (6) Remove Cables from the clamp.
- (7) One **Screw** (19)
- (8) Remove the **GND Wire** (541) from the clamp.

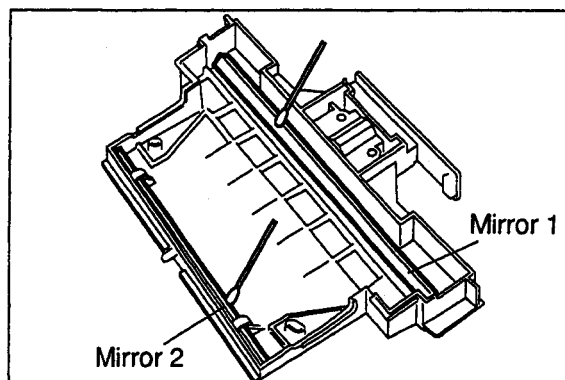


- (9) Three **Screws** (19)
- (10) Remove the **Transmitting Base Unit**.



- (11) Disconnect Connector CN30.
- (12) Two **Screws** (19)
- (13) Remove the **Scanner Block** (340).

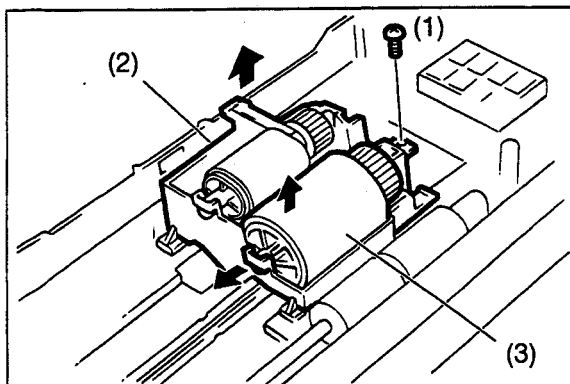
Continued on the next page.



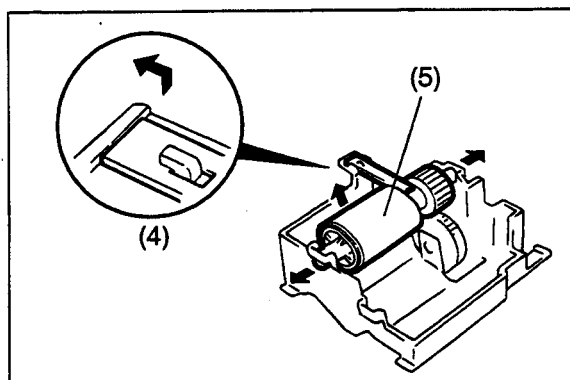
**Cleaning *Mirror 1* (337), *Mirror 2* (338)**

Clean the Mirror 1 (337) and Mirror 2 (338) with a soft cloth, soaked with isopropyl alcohol.

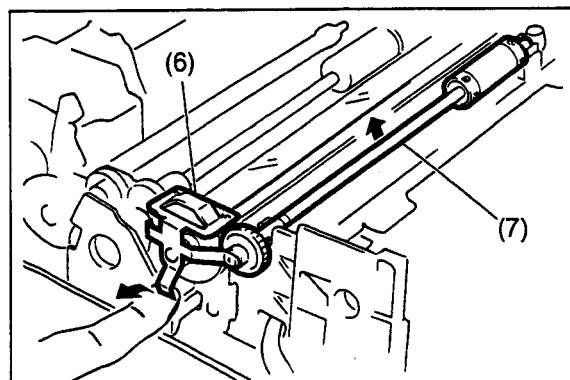
## 2.7 ADF Roller (323), Pre-Feed Roller (325), Eject Roller (330), Feed Roller (328), Transmission Gear Assembly



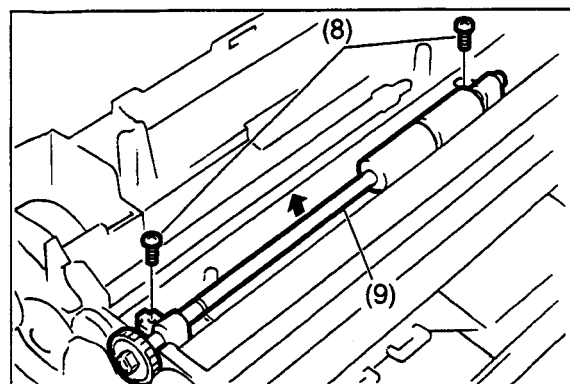
- (1) One **Screw** (19)
- (2) Remove the **ADF Roller Box**.
- (3) Remove the **ADF Roller** (323).



- (4) Remove the **Pressure Plate** (324).
- (5) Remove the **Pre-Feed Roller** (325).

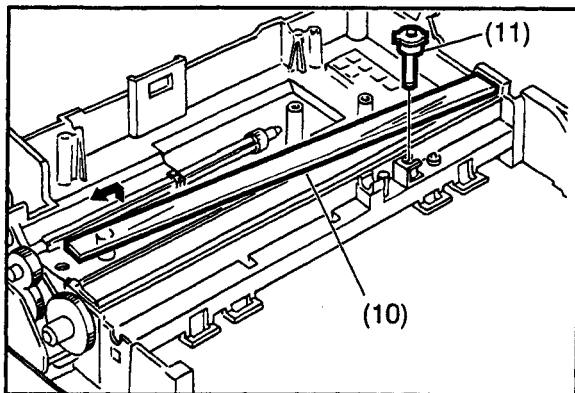


- (6) Remove the **Earth Spring Plate A** (316).
- (7) Remove the document **Eject Roller** (330).

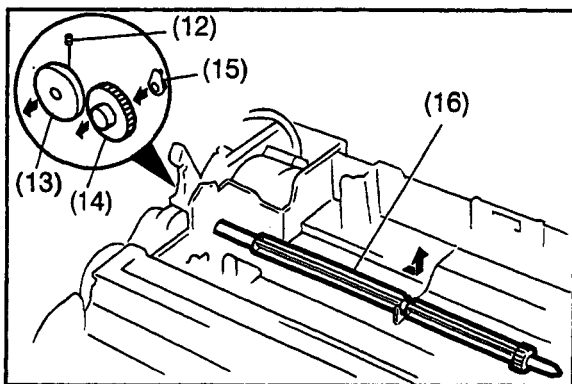


- (8) Two **Screws** (19)
- (9) Remove the **Feed Roller** (328).

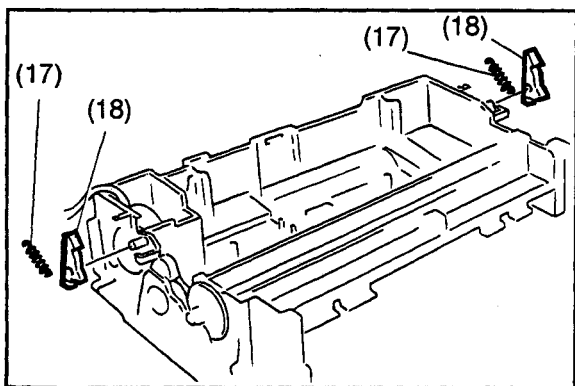
Continued on the next page.



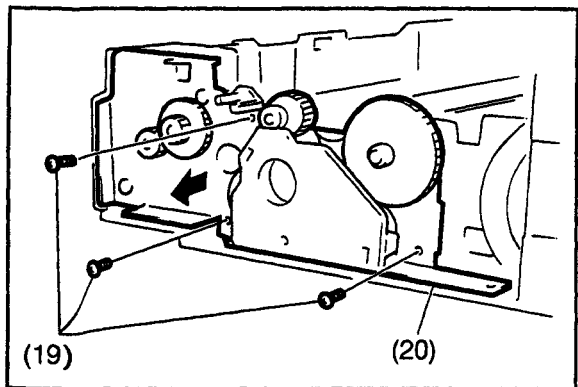
- (10) Remove the **Scanning Glass** (341).
- (11) Remove the **Stamp Head Assembly**.



- (12) One Allen **Screw** (D6)
- (13) Remove the **Flywheel** (345)
- (14) Remove the **Drive Gear** (314).
- (15) Remove the **Bushing** (343).
- (16) Remove the **Transmission Shaft** (331).

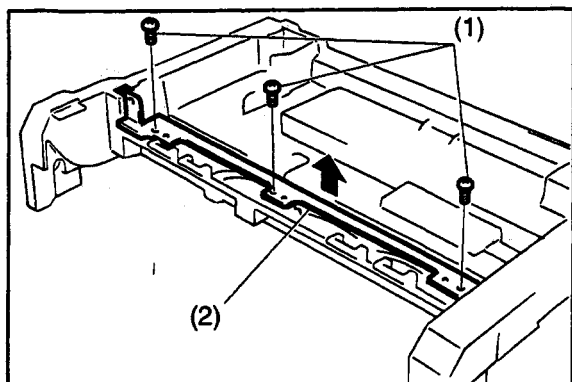


- (17) Remove two **Latch Coil Springs** (303).
- (18) Remove two **Latches** (302).

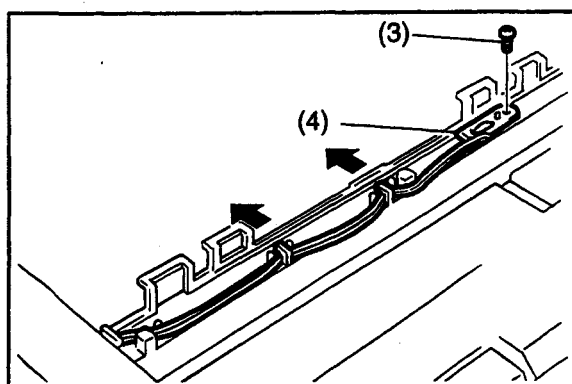


- (19) Three **Screws** (19)
- (20) Remove the **Transmission Gear Assembly**.

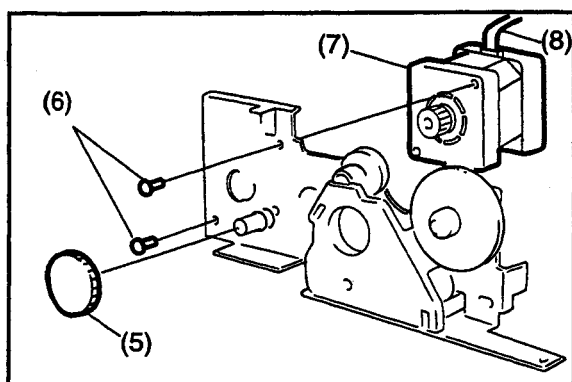
## 2.8 B4 LED Array Assembly (333), Verification Stamp Assembly, Transmit Motor (306)



- (1) Three **Screws** (19)
- (2) Remove the **B4 LED Array Assembly** (333).

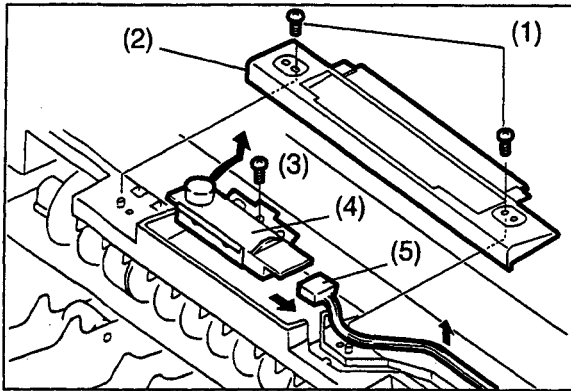


- (3) One **Screw** (19)
- (4) Remove the **Stamp Unit** (334) and **Stamp Solenoid** (335).

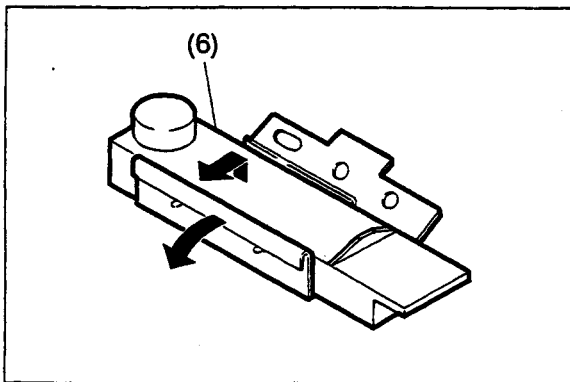


- (5) Remove the **Gear** (307).
- (6) Two **Screws** (19)
- (7) Remove the **Transmit Motor** (306).
- (8) Remove the **Transmit Motor Harness** (344).

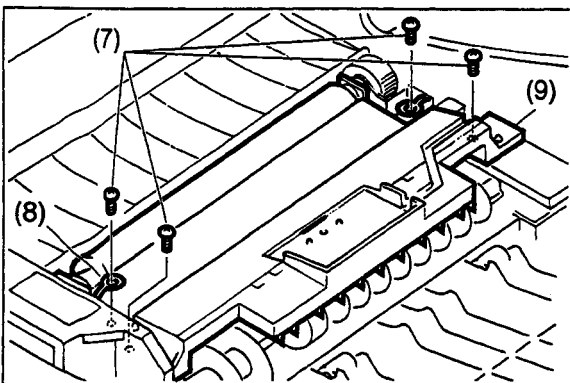
## 2.9 Toner Sensor (639), Bias Transfer Roller (630), Timing Sensor (610)



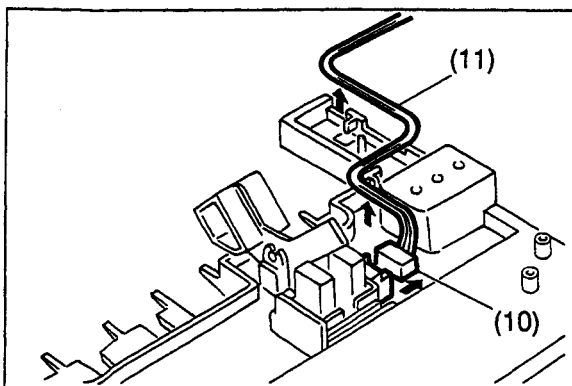
- (1) Two **Screws** (19)
- (2) Remove the **Toner Sensor Cover** (640).
- (3) One **Screw** (19)
- (4) Remove the **Toner Sensor Assembly**.
- (5) Disconnect connector and remove cable from the Upper Transport Guide.



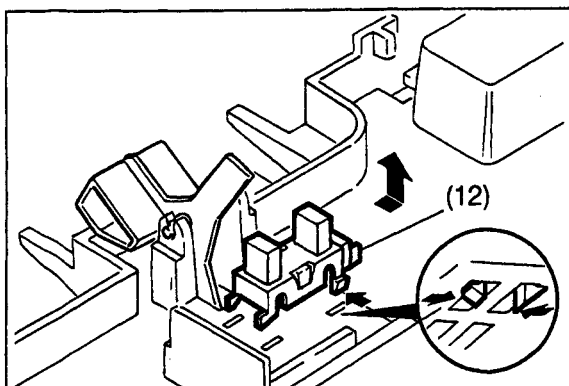
- (6) Remove the **Toner Sensor** (639).



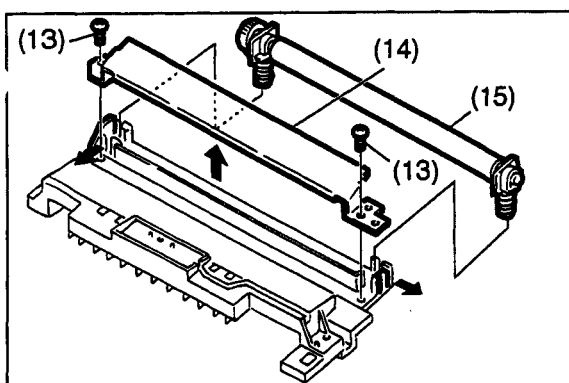
- (7) Four **Screws** (19) (Remove screw for the resistor first.)
- (8) Remove the **GND Harness** (653).
- (9) Remove the **Transport Unit**.



- (10) Disconnect connector.
- (11) Remove Cable from the Transport Unit.



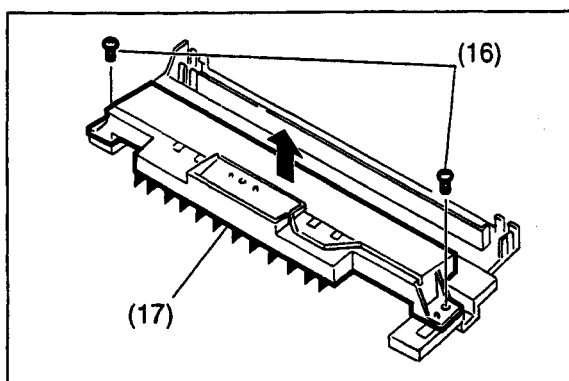
(12) Remove the **Timing Sensor** (610).



(13) Two **Screws** (19)

(14) Remove the **BTR Guide** (629).

(15) Remove the **Bias Transfer Roller** (630).

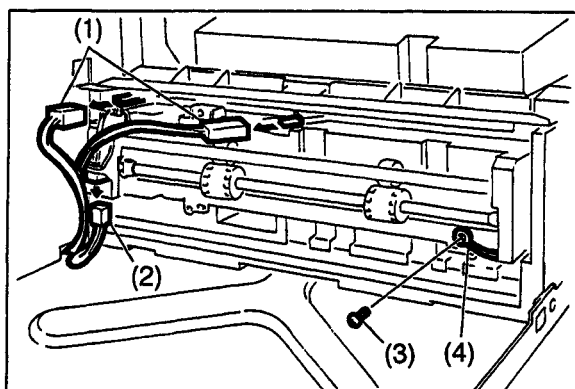


(16) Two **Screws** (19)

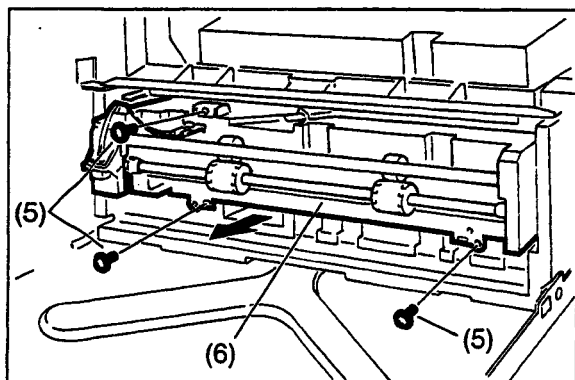
(17) Remove the **Upper Transfer Guide** (635).



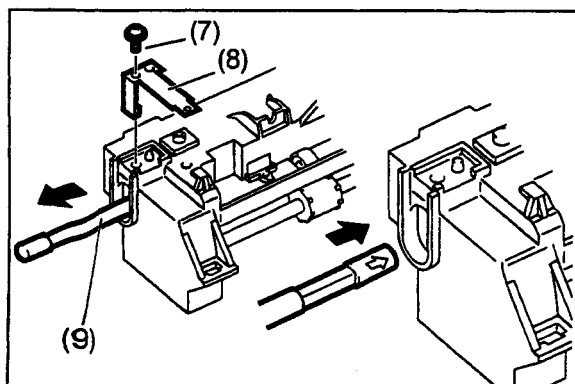
## 2.10 Fuser Unit (431), Fuser Lamp (408), Thermistor Assembly (405), Paper Exit Sensor (610)



- (1) Disconnect two connectors.
- (2) Disconnect relay connector.
- (3) One **Screw** (19)
- (4) Remove the **GND Harness** (653).



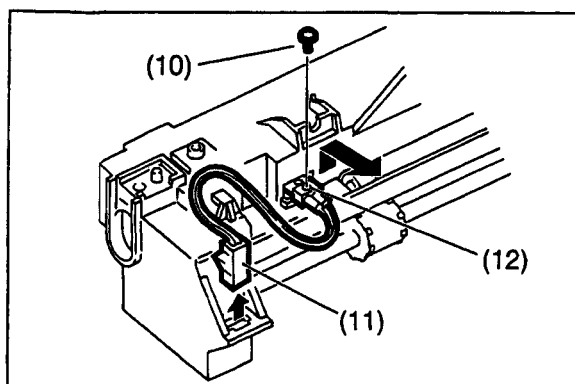
- (5) Three **Screws** (4N)
- (6) Remove the Fuser Unit.



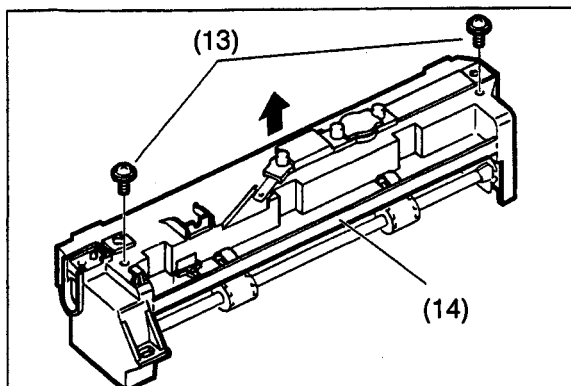
- (7) One **Screw** (23)
- (8) Remove the **Fuser Lamp Terminal C** (404).
- (9) Remove the **Fuser Lamp** (408).

**Caution:** When re-installing the Fuser Lamp, make sure that the Fuser Lamp is inserted into the Fuser Unit as illustrated on the left.

Do not touch the glass portion of the Fuser Lamp with bare hands. Grease from fingerprints will shorten its life cycle, use isopropyl alcohol to clean fingerprints.

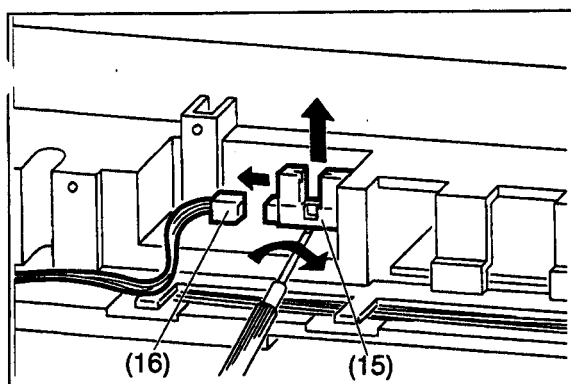


- (10) One **Screw** (1Q)
- (11) Disconnect connector.
- (12) Remove the **Thermistor** (405).



(13) Two **Screws** (23)

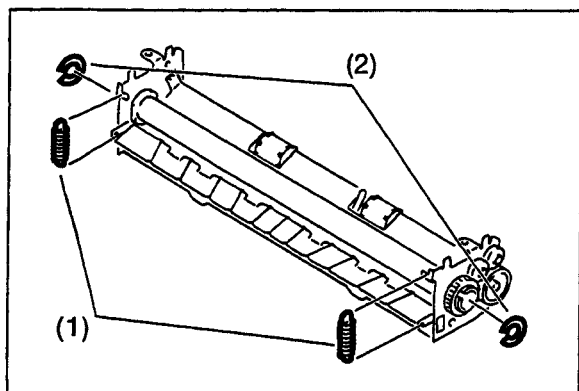
(14) Remove the **Fuser Cover** (401).



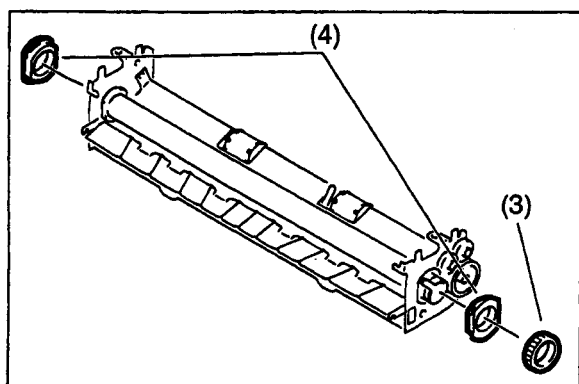
(15) Remove the **Paper Exit Sensor** (610).

(16) Disconnect connector.

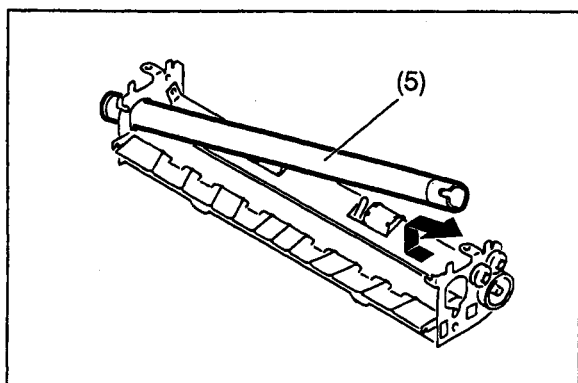
## 2.11 Fuser Roller (414), Eject Roller (422), Pressure Roller (409)



- (1) Two **Pressure Springs** (412)
- (2) Two **C-Rings** (418)

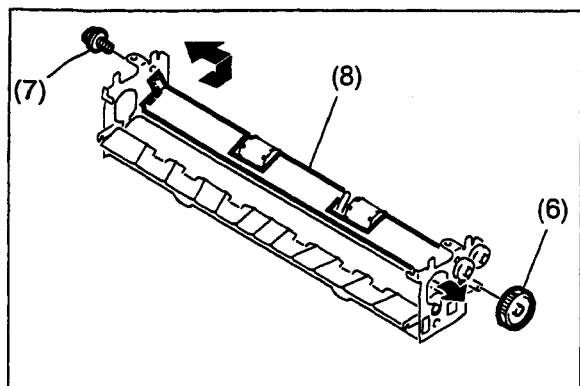


- (3) Remove the **Drive Gear** (417).
- (4) Remove two **Bushings** (416).

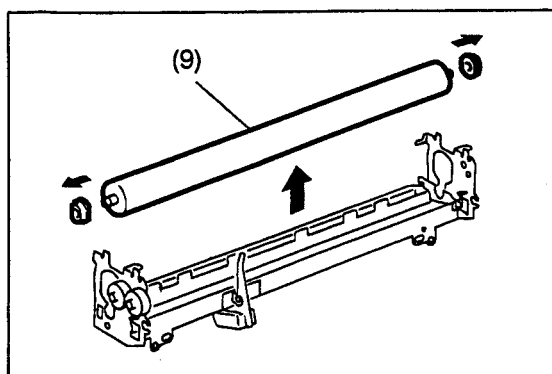


- (5) Remove the **Fuser Roller** (414).

**Caution:** Do not scratch the surface of the Fuser Roller when removing or re-installing it.

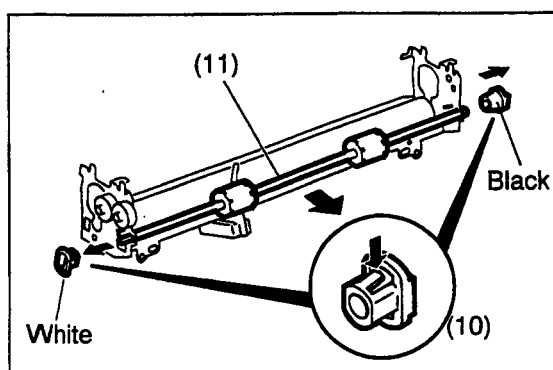


- (6) Remove the **Gear** (425).
- (7) One **Screw** (4N)
- (8) Remove the **Lower Paper Guide** (426).



(9) Remove the **Pressure Roller** (409).

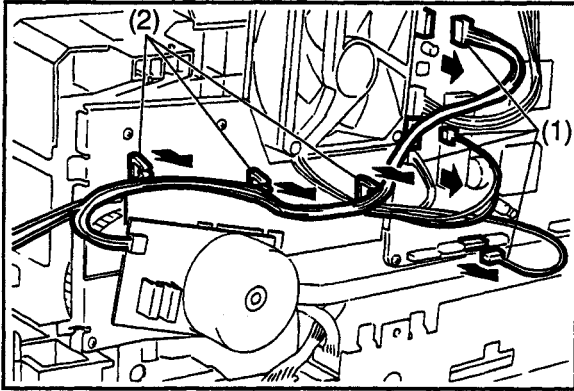
**Caution:** Do not scratch the surface of the Pressure Roller when removing or re-installing it.



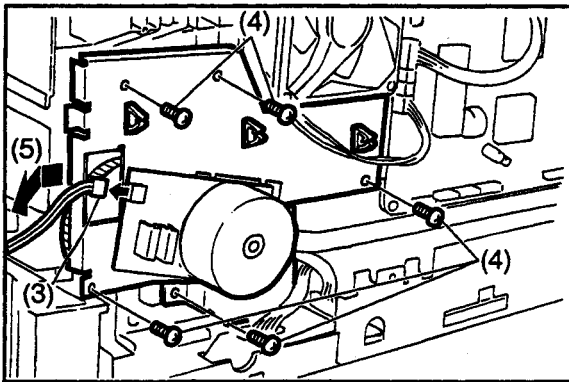
(10) Remove two **Bushings** (423) (424).

(11) Remove the **Exit Roller** (422).

## 2.12 Printer Driving Unit, Printer Motor (650)

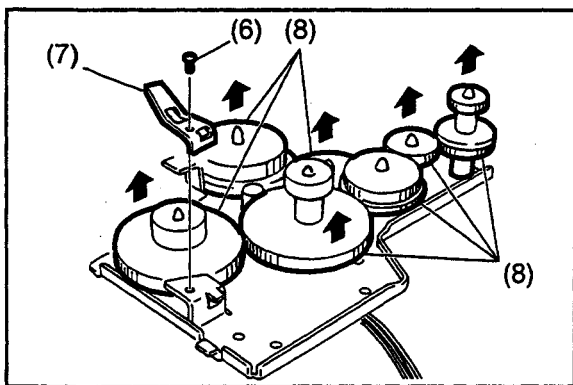


- (1) Disconnect connectors CN59, 54, 55 and 63.
- (2) Remove each cable from the clamp.



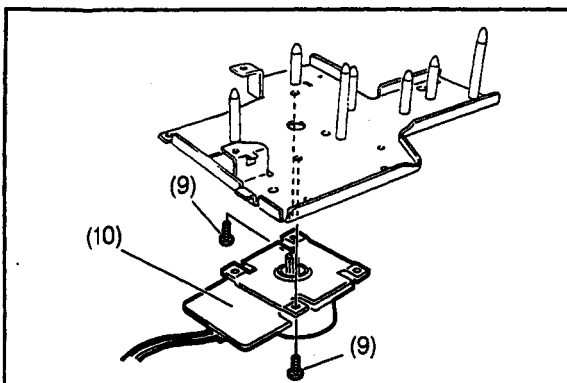
- (3) Disconnect connector from the Printer Motor and remove its cable.
- (4) Five **Screws** (19)
- (5) Remove the Printer Drive Unit.

**Caution:** When removing the Printer Drive Unit, make sure that the gears are not damaged.



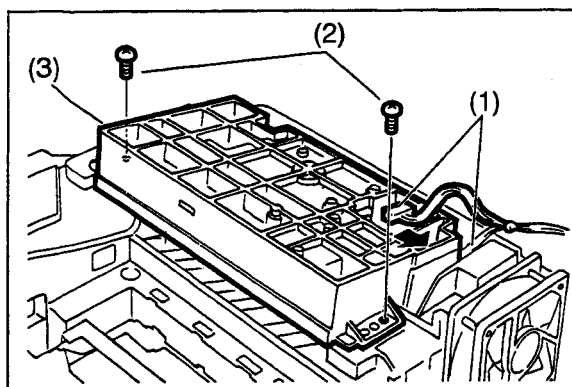
- (6) One **Screw** (19)
- (7) Remove the **Transfer Earth Spring** (649).
- (8) Seven Gears

**Caution:** When re-installing the gear (labeled "6"), be sure the washer go in the shaft first.

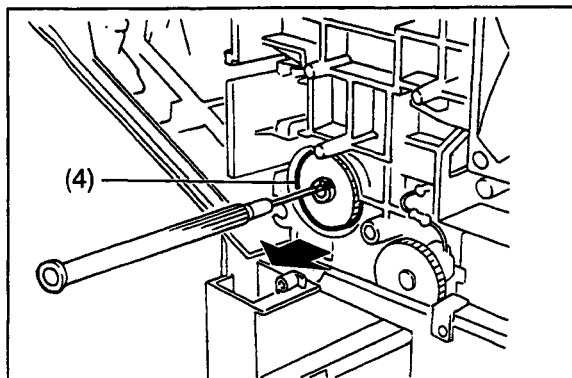


- (9) Two **Screws** (4N)
- (10) Remove the **Printer Motor** (650).

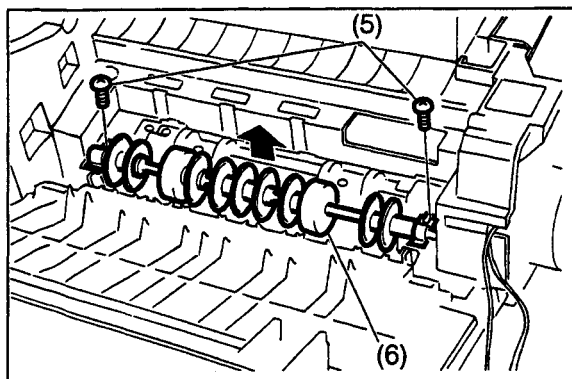
## 2.13 Laser Unit (429), Feed Roller (618), Paper Feed Roller (746), Clutch Assembly Gear (660), Paper Feed Solenoid (744), Fan Assembly (622)



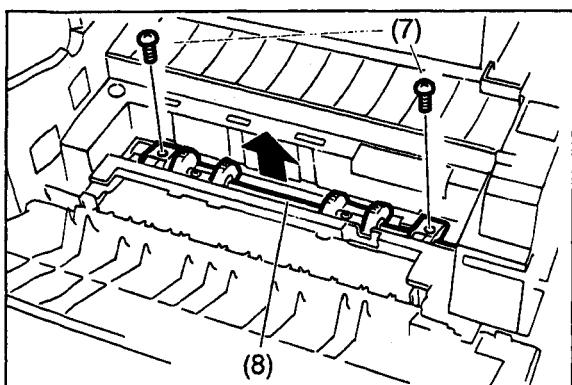
- (1) Disconnect connectors.
- (2) Two **Screws** (19)
- (3) Remove the **Laser Unit** (429).



- (4) Remove the **Drive Gear** (620).

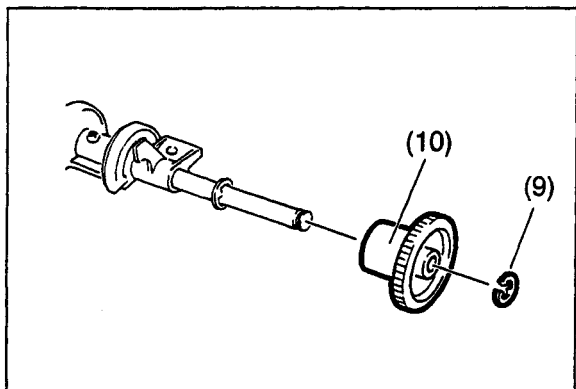


- (5) Two **Screws** (19)
- (6) Remove the **Feed Roller** (618).

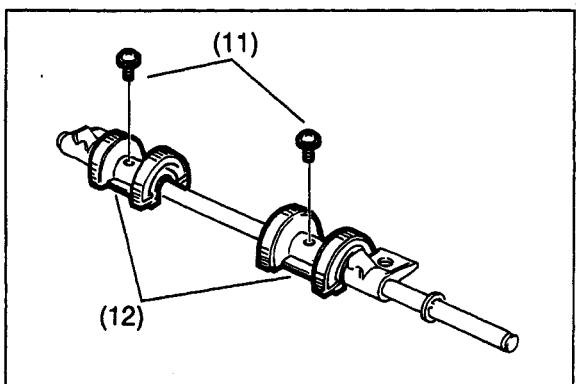


- (7) Two **Screws** (19)
- (8) Remove the Paper Feed Roller Assembly.

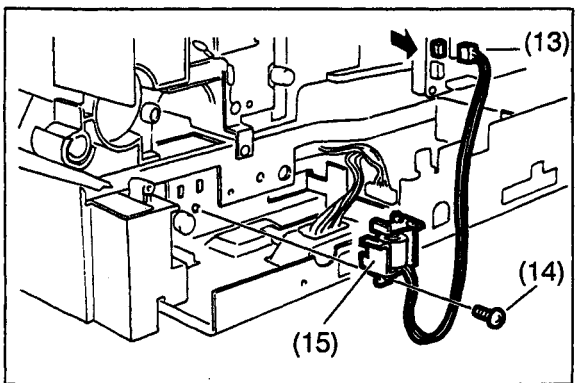
Continued on the next page.



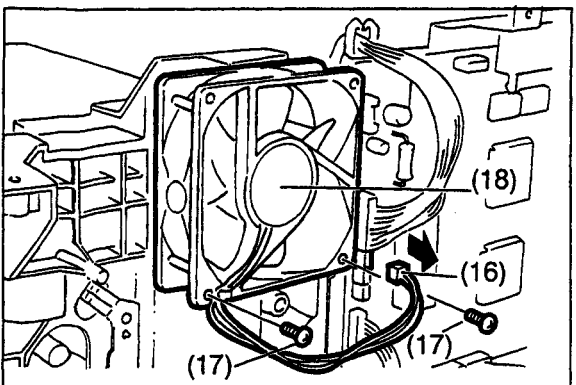
- (9) Remove the **E-Ring** (5Z).
- (10) Remove the **Clutch Assembly Gear** (660).



- (11) Two **Screws** (23)
  - (12) Remove the **Paper Feed Rollers** (746).
- Note:** The Paper Feed Rollers can be accessed from the bottom of the machine after removing the Paper Cassette.

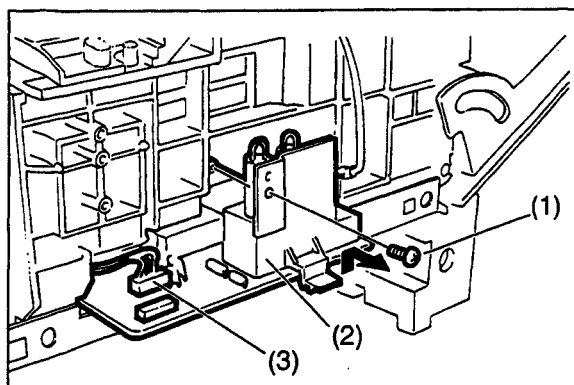


- (13) Disconnect connector CN55.
- (14) One **Screw** (19)
- (15) Remove the **Paper Feed Solenoid** (744).

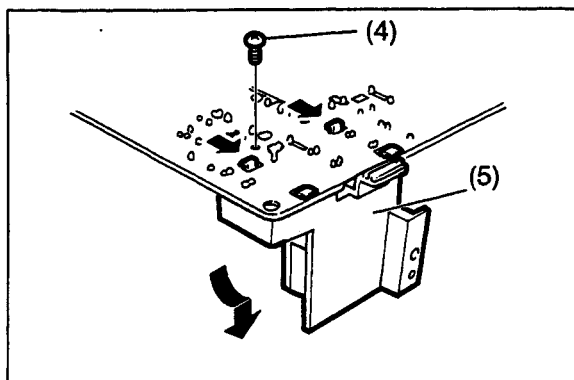


- (16) Disconnect connector CN54.
- (17) Two **Screws** (1Y)
- (18) Remove the **Fan Assembly** (622).

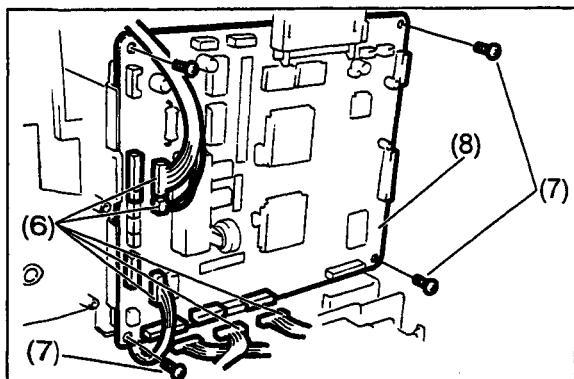
## 2.14 High Voltage Power Supply (HVPS) (506), Low Voltage Power Supply (LVPS) (513), FCB PC Board (510)



- (1) One **Screw** (19)
- (2) Pull out the **High Voltage Power Supply (HVPS)** (506).
- (3) Disconnect connector CN39.

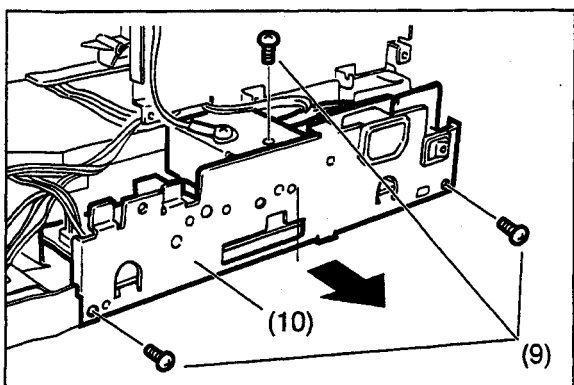


- (4) One **Screw** (19)
- (5) Remove the **High Voltage Terminal Cover** (503).



- (6) Disconnect all connectors on the FCB PC Board.
- (7) Four **Screws** (C8)
- (8) Remove the **FCB PC Board** (510).

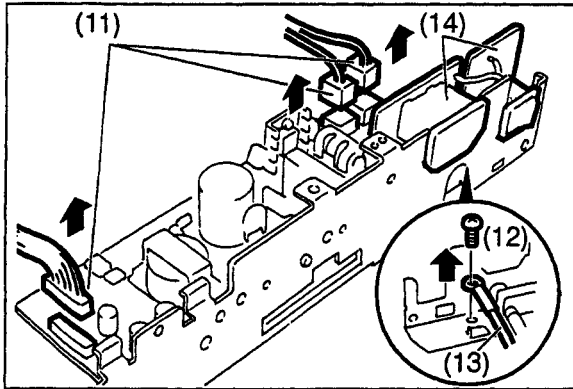
**Note:** Remove the Memory Card Guide from the FCB PCB before sending in for repair.



- (9) Three **Screws** (19)
- (10) Pull out the **Low Voltage Power Supply Assembly**.

Continued on the next page.



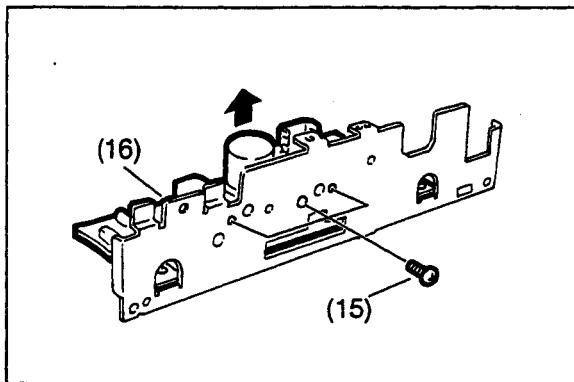


(11) Disconnect three connectors CN33, 34 and 35.

(12) One **Screw** (35)

(13) Remove the Ground Cable.

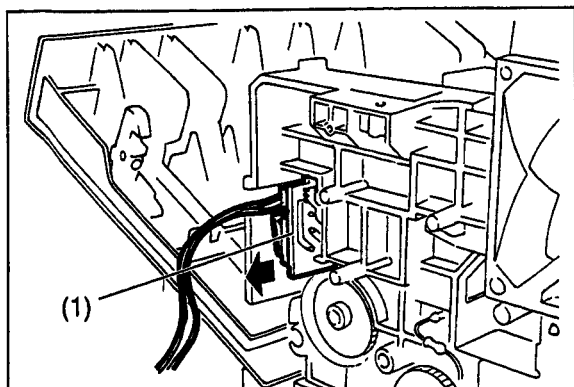
(14) Remove the **AC Inlet Assembly** (514).



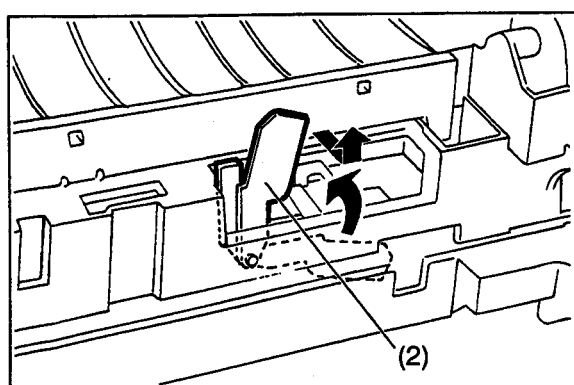
(15) Three **Screw** (19)

(16) Remove the **Low Voltage Power Supply (LVPS)** (513).

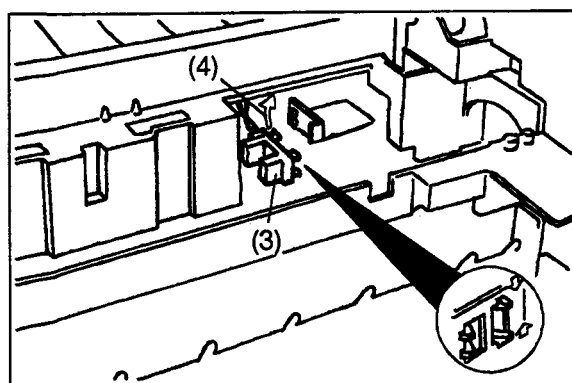
## 2.15 Printer Cover Switch (621), No Paper Sensor (610), Magnet Catch (730)



(1) Remove the **Printer Cover Switch** (621).

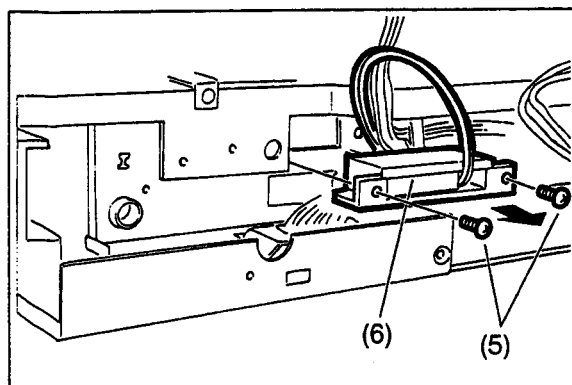


(2) Remove the **No Paper Sensor Actuator** (609).



(3) Remove the **No Paper Sensor** (610).































(4) Pull out the No Paper Sensor from the rear, and disconnect connector.



(5) Two **Screws** (19)

(6) Remove the **Magnet Catch** (730).

## 2.16 Screw Identification Template

| Ref No. | Part No.   | Figure  | Remark |
|---------|------------|---|--------|
| 5Y      | XUC4       |         |        |
| 5Z      | XUC6       |         |        |
| 652     | DZPK000001 |         |        |
| 4N      | XSN3+W8FC  |         |        |
| CB      | XTW3+8SFC  |         |        |
| 7B      | XTB26+6J   |         |        |
| 19      | XTB3+8J    |         |        |
| B1      | DZPA000001 |       |        |
| 9H      | XTN26+6J   |     |        |
| 1Y      | XTB3+10J   |     |        |
| 11      | XYN3+F12   |     |        |
| 1Q      | XYN3+F10   |     |        |
| 23      | XYN3+F8    |     |        |
| B5      | XSB4+10BN  |     |        |
| 35      | XYN4+F6    |     |        |

## **Chapter 3**

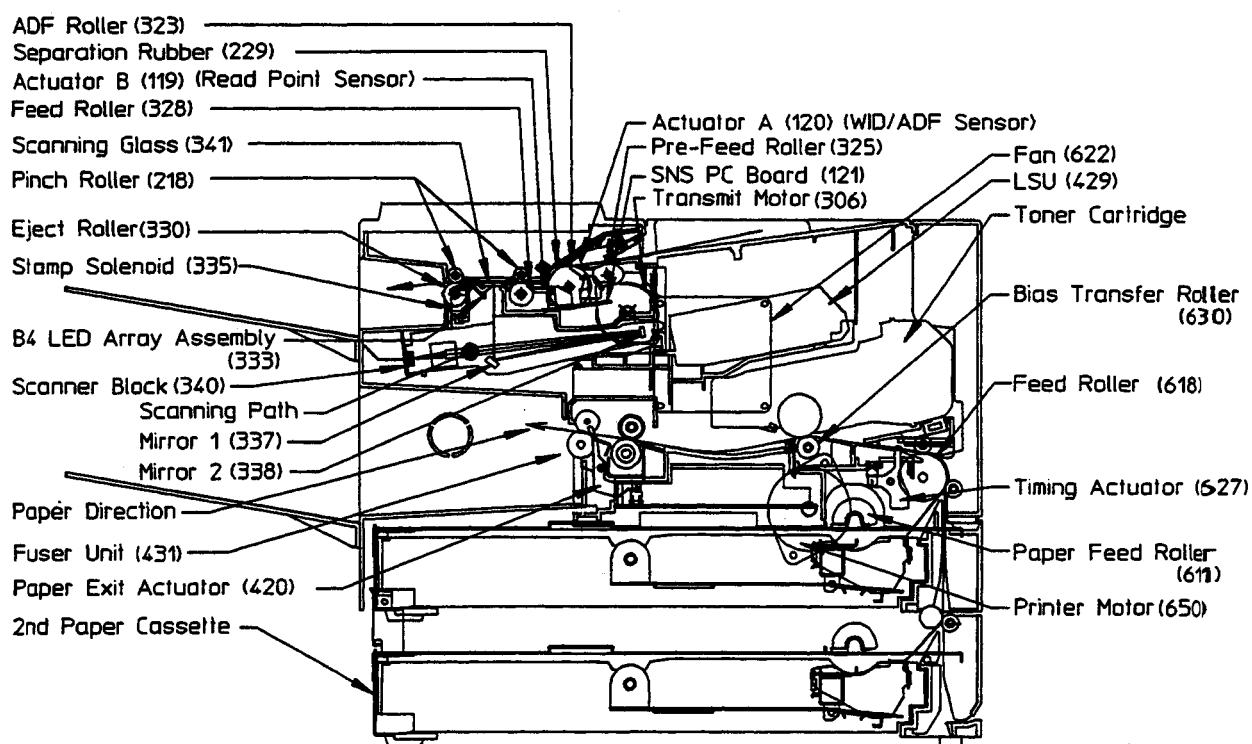
# **Maintenance, Adjustments and Check Points**

### 3.1 Required Tools

| No. | Tool                            | No. | Tool                               |
|-----|---------------------------------|-----|------------------------------------|
| 1   | Soft Cloth                      | 6   | Pliers                             |
| 2   | Isopropyl Alcohol               | 7   | Cotton Swab                        |
| 3   | Phillips Screwdriver (#2)       | 8   | Brush                              |
| 4   | Blade-tip Screwdriver (3/32 in) | 9   | KS-660 - Conductive Grease         |
| 5   | Tweezers                        | 10  | IC Extractor                       |
|     |                                 | 11  | Allen Key Wrench (1.5 mm, 0.06 in) |

**Note:** For reference, KS-660 is manufactured by SHIN-ETSU SILICONES OF AMERICA.

### 3.2 Periodic Maintenance Points



### 3.3 Periodic Maintenance Check List

The chart outlined below is a general guideline for maintenance. The example list is for an average usage of 50 transmitted and received documents per day. Needless to say, the environmental conditions and actual use will vary these factors.

The chart below is for reference only

|                      | Cleaning                          |                   | Replacement/Adjustment           |           |
|----------------------|-----------------------------------|-------------------|----------------------------------|-----------|
|                      | Cycle                             | Method            | Cycle                            | Method    |
| ADF Roller           | 3 months                          | Page 2-8          | 3-5 years<br>(30,000 documents)  | Page 2-11 |
| Separation Rubber    | 3 months                          | Page 2-5          | 1-3 years<br>(10,000 documents)  | Page 2-5  |
| Pre-Feed Roller      | 3 months                          | Page 2-8          | 3-5 years<br>(30,000 documents)  | Page 2-11 |
| Mirrors              | 12 months                         | Page 2-10         | -                                | Page 2-10 |
| Verification Stamp   | -                                 | -                 | 5,000 documents                  | Page 2-12 |
| Feed Roller          | 3 months                          | -                 | 3-5 years<br>(30,000 documents)  | Page 2-11 |
| Transmit Motor       | -                                 | -                 | 5 years                          | Page 2-13 |
| Scanning Glass       | 3 months                          | Page 2-5          | -                                | Page 2-5  |
| Eject Roller         | 3 months                          | -                 | 3-5 years<br>(30,000 documents)  | Page 2-11 |
| Latch                | 12 months                         | -                 | -                                | -         |
| Toner Cartridge      | -                                 | -                 | 10,000 pages *                   | -         |
| Feed Roller          | 12 months or<br>10,000 documents  | Alcohol           |                                  | Page 2-21 |
| Bias Transfer Roller | 12 months or<br>10,000 documents  | -                 | 30,000 documents                 | Page 2-15 |
| Fuser Unit           | When replacing Print<br>Cartridge | Cleaning<br>chart | 50,000 documents                 | Page 2-16 |
| Paper Feed Roller    | 12 months or<br>10,000 documents  | Alcohol           | 30,000 documents                 | Page 2-21 |
| Fuser Lamp           | -                                 | -                 | 50,000 documents<br>or 2-5 years | Page 2-16 |
| Fuser Roller         | 12 months or<br>10,000 documents  | Alcohol           | -                                | Page 2-18 |
| Pressure Roller      | 12 months or<br>10,000 documents  | Alcohol           | -                                | Page 2-19 |
| Fan                  | -                                 | -                 | 3-5 years                        | Page 2-22 |
| Printer Motor        | -                                 | -                 | 5 years                          | Page 2-20 |

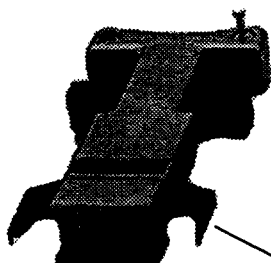
\* Note : with ITU-T Image No.1, Standard resolution, by Multi-Copy

### **3.4 Program ROMs**

#### **3.4.1 Replacement Procedure**

(ROM is mounted on the FCB PCB.)

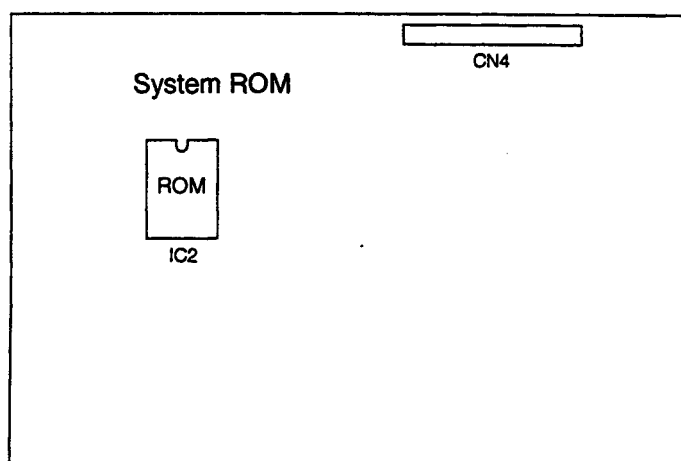
- (1) Before replacing ROM, print out the current Fax Parameter and Function Parameter settings.
- (2) Turn the Power Switch "Off".
- (3) Remove the Battery Cover.
- (4) Remove the ROM with an IC Extractor or an equivalent tool.



IC Extractor

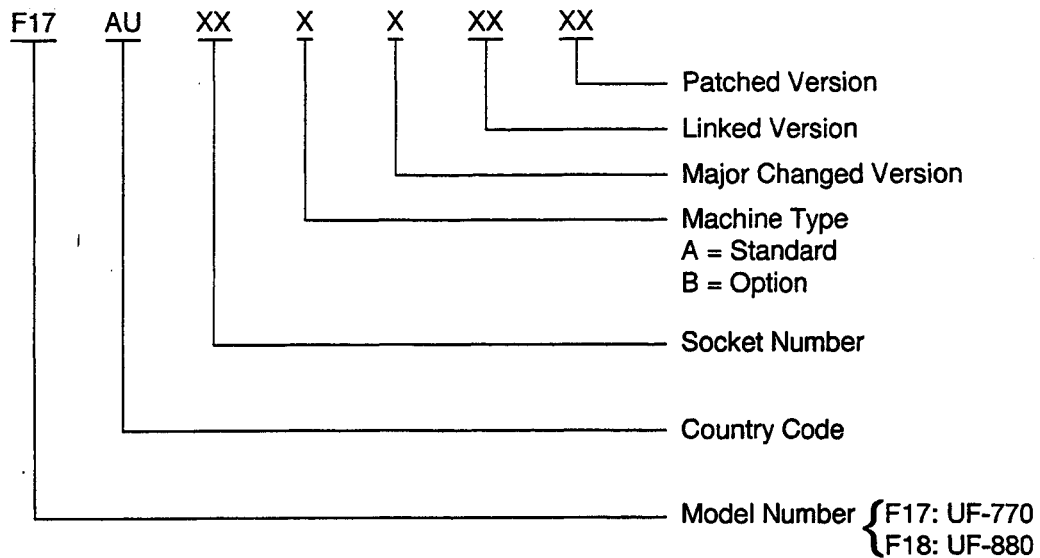
- (5) Insert new ROM.
- (6) Re-install the Battery Cover.
- (7) Perform Test Mode No.6-Parameter Initialization.
- (8) Reprogram the Fax Parameters and Function Parameters per previous print out if they were other than Factory settings.

#### **3.4.2 ROM Location**



### 3.4.3 ROM Label (Example: F17AURCA00500/UF-770, F18AURCA00500/UF-880)

● Software for System Control

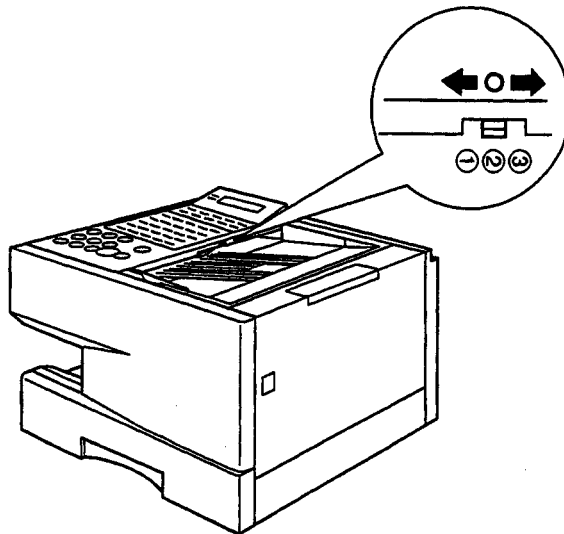


**Note:** Patched versions will be incremented in order, when the software is modified. When a Linked version is incremented, the patched version will be reset to "00".



### 3.5 ADF Pressure

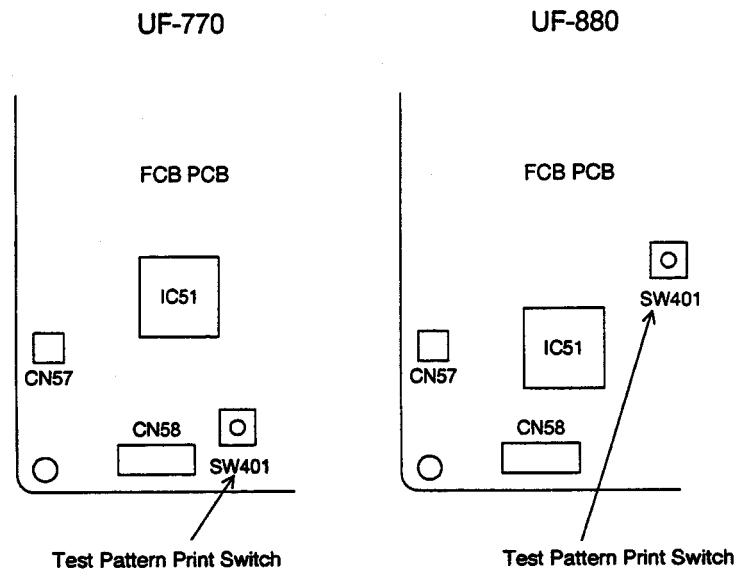
- When the document is multi-feeding, move the Pressure Adjusting Lever to the 3(H) position.
- When the document does not feed properly, move the Pressure Adjusting Lever to the 1(L) position.



| Position | Pressure of separator | Situation                              |
|----------|-----------------------|--|
| 1(L)     | Low                   | When the document misfeeds             |
| 2(M)     | Medium                | Normal position (Factory set position) |
| 3(H)     | High                  | When the document multi-feeds          |

### 3.6 Printer Unit Test

- (1) You can check the printer with the LCU PCB, Control Panel and Scanner Block disconnected in the unit (Sections 2.5 and 2.6)
- (2) Press the Test Pattern Print Switch (SW401) on the FCB PCB as shown below.



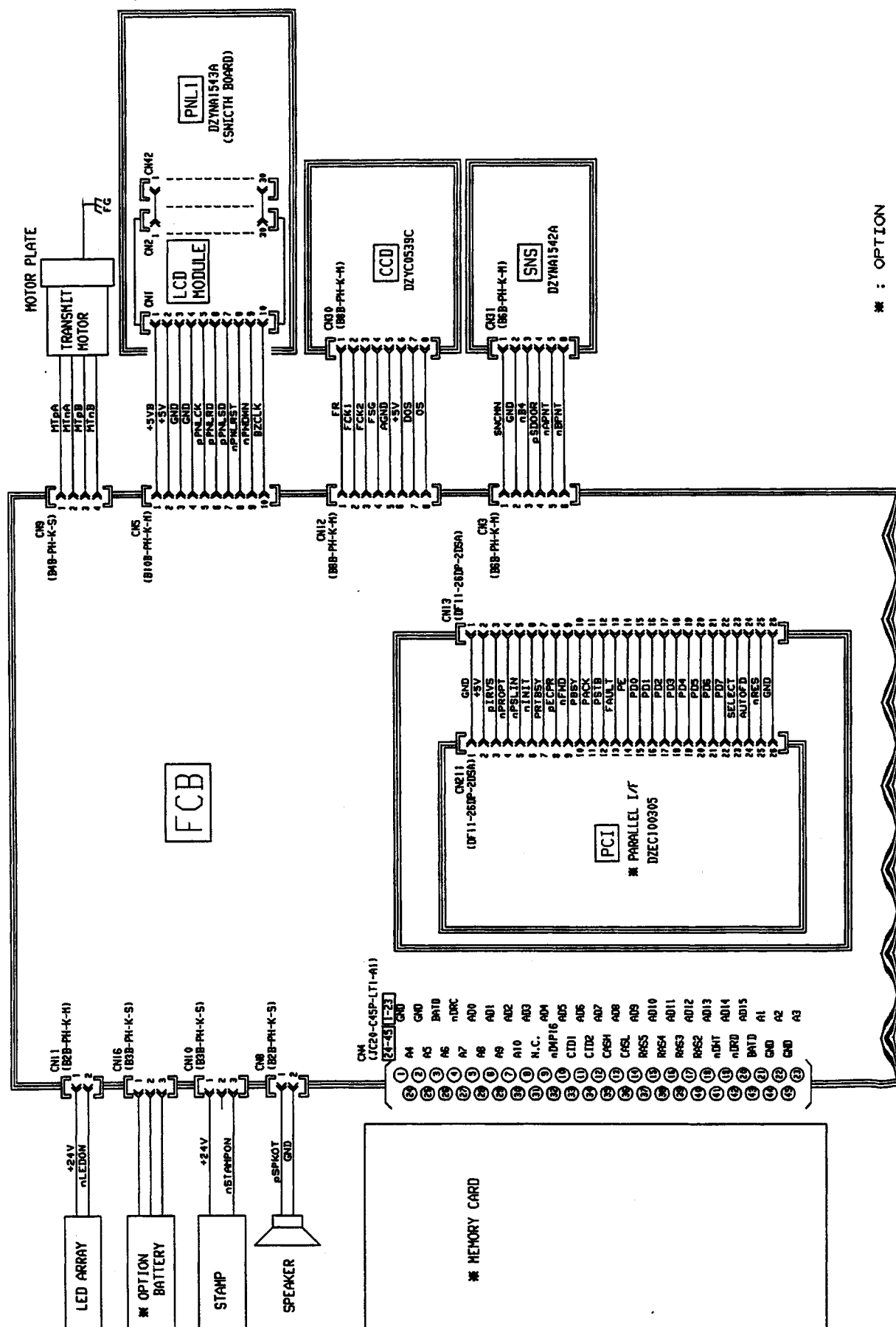
|                  | Pattern               | Selection method                  | Stop method     |
|------------------|-----------------------|-----------------------------------|-----------------|
| <b>Pattern 0</b> | 1-dot Horizontal line | Switch ON for less than 2 seconds | Switch ON again |
| <b>Pattern 1</b> | Blank page            | Switch ON for 2 seconds or more   | Switch ON again |

- (3) The Test Pattern prints. Check the print Quality.



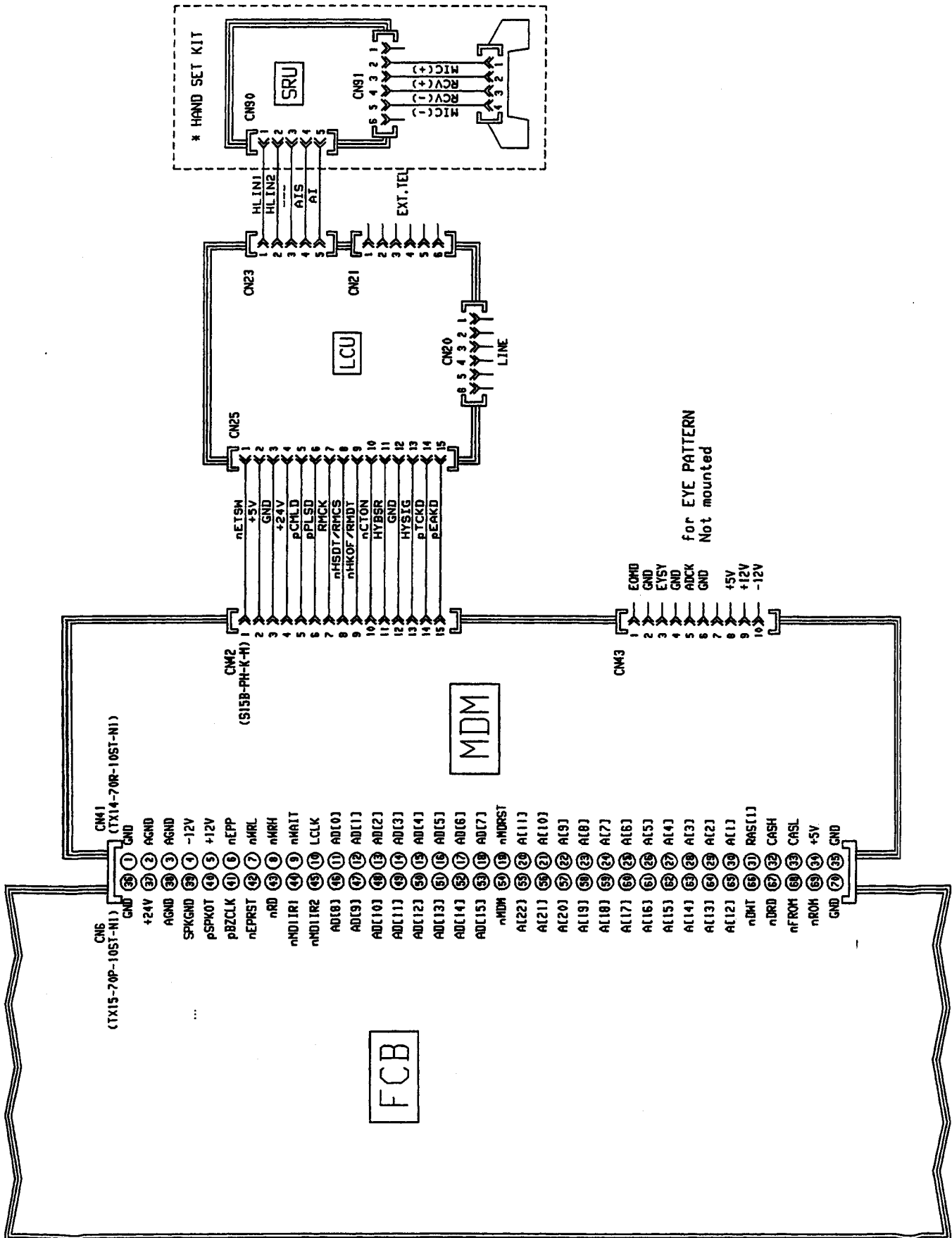
### 3.7 General Circuit Diagrams

### 3.7.1.2 Fax Circuit (UF-880: 1/2)



### 3.7 General Circuit Diagrams

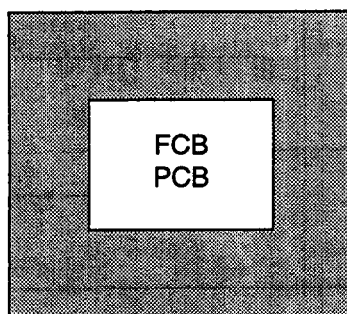
#### 3.7.1.3 Fax Circuit (UF-880: 2/2)



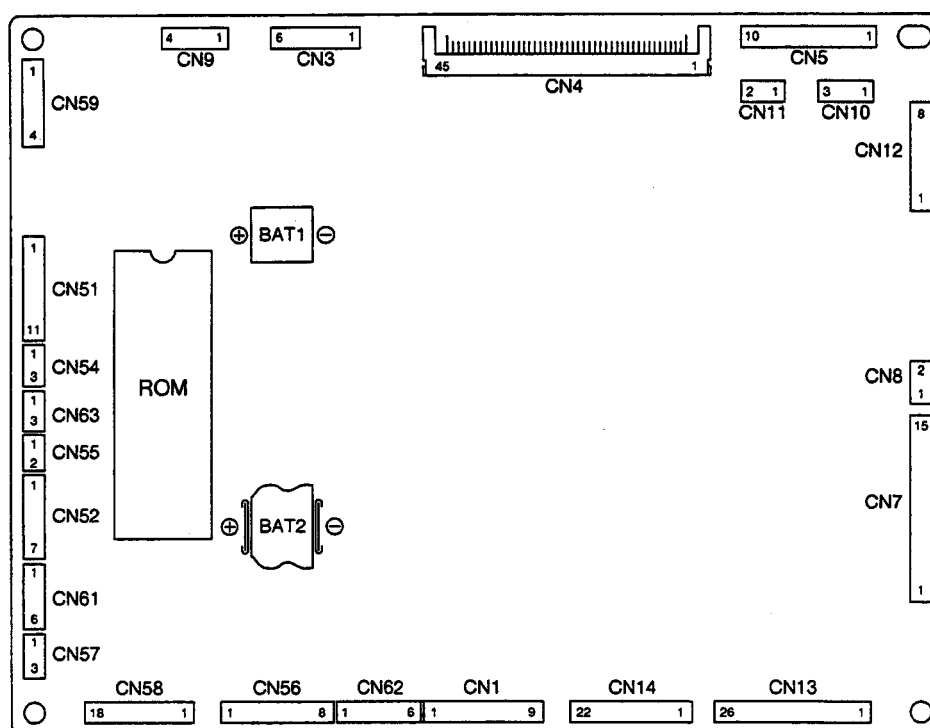




## 3.8.1 FCB PCB (UF-770)



Back Side View

**Nickel-Cadmium Battery**

The Nickel-Cadmium Battery (BAT1, BAT2), under various state and local laws is recyclable and it may be illegal to dispose of the battery into municipal waste streams. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

**WARNING**

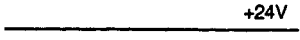

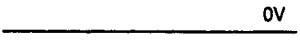

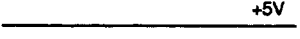



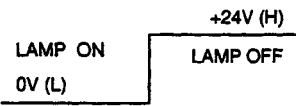
The batteries in this equipment must only be replaced by qualified personnel. When necessary, contact your local Panasonic supplier.

**CAUTION**

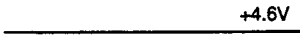
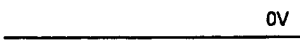
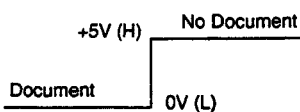
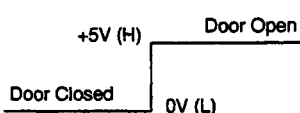
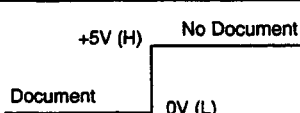
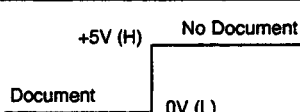
Danger of explosion if batteries are incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the above instructions.







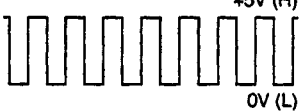
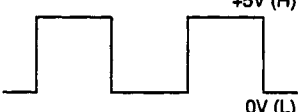
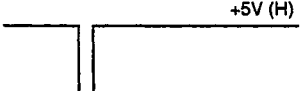


CN1

| Pin No. | Signal Name | Destination    | Signal Waveform   | Function                  |
|---------|-------------|----------------|---|---------------------------|
| 1       | +24V        | LVPS<br>CN32-1 |    | +24 VDC Power Supply      |
| 2       | +24V        | LVPS<br>CN32-2 |    | +24 VDC Power Supply      |
| 3       | MGND        | LVPS<br>CN32-3 |    | Ground                    |
| 4       | MGND        | LVPS<br>CN32-4 |    | Ground                    |
| 5       | +5V         | LVPS<br>CN32-5 |    | +5 VDC Power Supply       |
| 6       | GND         | LVPS<br>CN32-6 |  | Ground                    |
| 7       | -12V        | LVPS<br>CN32-7 |  | -12 VDC Power Supply      |
| 8       | GND         | LVPS<br>CN32-8 |  | Ground                    |
| 9       | SSR         | LVPS<br>CN32-9 |  | Fuser Lamp Control Signal |




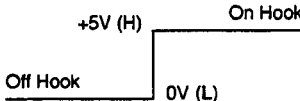
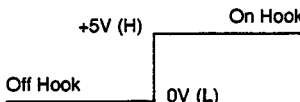

## CN3

| Pin No. | Signal Name | Destination       | Signal Waveform  | Function                          |
|---------|-------------|-------------------|--|-----------------------------------|
| 1       | SNCMN       | SNS PCB<br>CN31-1 |    | +4.6V VDC Power Supply            |
| 2       | GND         | SNS PCB<br>CN31-2 |    | Ground                            |
| 3       | nB4         | SNS PCB<br>CN31-3 |    | B4 Size Document Detection on ADF |
| 4       | pSDOOR      | SNS PCB<br>CN31-4 |    | Tx Door Open Detection            |
| 5       | nAPNT       | SNS PCB<br>CN31-5 |    | ADF Document Detection            |
| 6       | nBPNT       | SNS PCB<br>CN31-6 |  | Read Point Document Detection     |

## CN5

| Pin No. | Signal Name | Destination        | Signal Waveform   | Function                            |
|---------|-------------|--------------------|---|-------------------------------------|
| 1       | +5VB        | PNL1 PCB<br>CN1-1  |  +5V                 | +5 VDC Power Supply                 |
| 2       | +5V         | PNL1 PCB<br>CN1-2  |  +5V                 | +5 VDC Power Supply                 |
| 3       | GND         | PNL1 PCB<br>CN1-3  |  0V                  | Ground                              |
| 4       | GND         | PNL1 PCB<br>CN1-4  |  0V                  | Ground                              |
| 5       | pPNLCK      | PNL1 PCB<br>CN1-5  |  +5V (H)<br>0V (L)  | Serial Data Transfer Clock          |
| 6       | pPNLRD      | PNL1 PCB<br>CN1-6  |  +5V (H)<br>0V (L) | Reception Data                      |
| 7       | pPNLSD      | PNL1 PCB<br>CN1-7  |   | Transmission Data                   |
| 8       | nPNLRST     | PNL1 PCB<br>CN1-8  |  +5V (H)           | Panel Reset Signal<br>(Reset by 0V) |
| 9       | nPWDWN      | PNL1 PCB<br>CN1-9  |  +5V               | +5 VDC Power Down Signal            |
| 10      | BZCLK       | PNL1 PCB<br>CN1-10 |  +5V (H)<br>0V (L) | Buzzer Clock                        |



**CN7 (1/2)**

| Pin No. | Signal Name | Destination         | Signal Waveform  | Function   |
|---------|-------------|---------------------|--|--|
| 1       | nETSW       | LCU PCB<br>CN 25-1  |  | Not Used   |
| 2       | +5V         | LCU PCB<br>CN 25-2  |    | +5 VDC Power Supply  |
| 3       | GND         | LCU PCB<br>CN 25-3  |    | Ground   |
| 4       | +24V        | LCU PCB<br>CN 25-4  |    | +24 VDC Power Supply   |
| 5       | pCMLD       | LCU PCB<br>CN 25-5  | H=FAX Side, L= Telephone Side  | Line Switching Relay Drive   |
| 6       | pPLSD       | LCU PCB<br>CN 25-6  | H=Make, L=Break  | Pulse Dial Relay Drive   |
| 7       | RMCK        | LCU PCB<br>CN 25-7  |  | Not Used   |
| 8       | nHSDT/RMCS  | LCU PCB<br>CN 25-8  |  | Handset Off-Hook Detection Signal  |
| 9       | nHKOF/RMDT  | LCU PCB<br>CN 25-9  |  | External Phone Off-Hook Detection Signal<br>(Phone Line must be connected) |
| 10      | nCTON       | LCU PCB<br>CN 25-10 | H=Standby Mode, L=Ring in  | Ring Detection Signal  |
| 11      | HYBSR       | LCU PCB<br>CN 25-11 |  | Line Transformer Input Signal  |
| 12      | GND         | LCU PCB<br>CN 25-12 |  | Ground   |
| 13      | HYSIG       | LCU PCB<br>CN 25-13 |  | Not Used   |

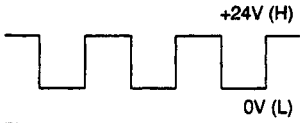

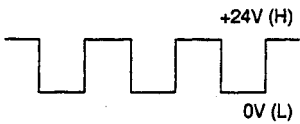
## CN7 (2/2)

| Pin No. | Signal Name | Destination         | Signal Waveform | Function |
|---------|-------------|---------------------|-----------------|----------|
| 14      | pTCKD       | LCU PCB<br>CN 25-14 |                 | Not Used |
| 15      | pEAKD       | LCU PCB<br>CN 25-15 |                 | Not Used |


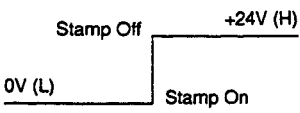
## CN8

| Pin No. | Signal Name | Destination | Signal Waveform   | Function                      |
|---------|-------------|-------------|---|-------------------------------|
| 1       | pSPKOT      | Speaker     |  | Line Signal, Key Tone, Ringer |
| 2       | GND         | Speaker     |  | Ground                        |

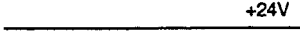
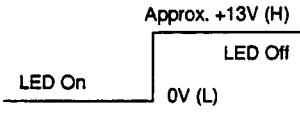
## CN9

| Pin No. | Signal Name | Destination    | Signal Waveform   | Function        |
|---------|-------------|----------------|---|-----------------|
| 1       | MTpA        | Transmit Motor |  | Stepping Signal |
| 2       | MTnA        | Transmit Motor |  | Stepping Signal |
| 3       | MTpB        | Transmit Motor |   | Stepping Signal |
| 4       | MTnB        | Transmit Motor |  | Stepping Signal |


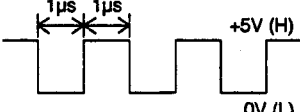
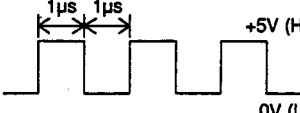
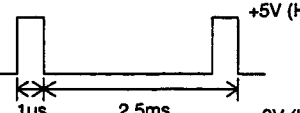



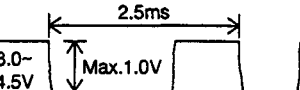
## CN10

| Pin No. | Signal Name | Destination    | Signal Waveform   | Function             |
|---------|-------------|----------------|---|----------------------|
| 1       | +24V        | Stamp Solenoid |  | +24 VDC Power Supply |
| 2       | NC          | Stamp Solenoid |   | Not Connected        |
| 3       | nSTAMPON    | Stamp Solenoid |  | Stamp Drive Signal   |

**CN11**











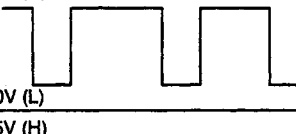
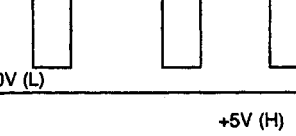

| Pin No. | Signal Name | Destination | Signal Waveform  | Function             |
|---------|-------------|-------------|--|----------------------|
| 1       | +24V        | LED Array   |  | +24 VDC Power Supply |
| 2       | nLEDON      | LED Array   |  | LED Enable Signal    |

**CN12**

| Pin No. | Signal Name | Destination    | Signal Waveform  | Function                            |
|---------|-------------|----------------|--|-------------------------------------|
| 1       | FR          | CCD PCB CN30-1 |    | Reset Signal                        |
| 2       | FCK1        | CCD PCB CN30-2 |    | Shift Register Clock1               |
| 3       | FCK2        | CCD PCB CN30-3 |  | Shift Register Clock2               |
| 4       | FSG         | CCD PCB CN30-4 |  | Data Transfer Enable Signal         |
| 5       | AGND        | CCD PCB CN30-5 |  | Analog Ground                       |
| 6       | +5V         | CCD PCB CN30-6 |  | Output Block Drain Voltage          |
| 7       | DOS         | CCD PCB CN30-7 |  | Compensation Signal (Analog Signal) |
| 8       | OS          | CCD PCB CN30-8 |  | Video Signal                        |

## CN13 (1/2)

[ (1) : Printer Interface, (2) PC Interface ]

| Pin No. | Signal Name | Destination         | Signal Waveform   | Function  |
|---------|-------------|---------------------|---|---|
| 1       | GND         | PCI PCB<br>CN 211-1 |    | Ground  |
| 2       | +5V         | PCI PCB<br>CN211-2  |    | +5 VDC Power Supply   |
| 3       | pIRVS       | PCI PCB<br>CN211-3  |    | nINIT Control Signal  |
| 4       | nPROPT      | PCI PCB<br>CN211-4  |    | Option Detect Signal  |
| 5       | nPSLIN      | PCI PCB<br>CN211-5  |    | (1) Printer Select Signal<br>(2) Active Signal (IEEE 1284 Active) |
| 6       | nINIT       | PCI PCB<br>CN211-6  |  | Input Prime Signal  |
| 7       | PRTBSY      | PCI PCB<br>CN211-7  |  | (1) Not Used<br>(2) Data Bit                                      |
| 8       | pECPR       | PCI PCB<br>CN211-8  |  | ECP Reverse Control Signal  |
| 9       | nFWD        | PCI PCB<br>CN211-9  |  | Parallel Data Direction Control Signal                            |
| 10      | PBSY        | PCI PCB<br>CN211-10 |  | (1) Busy<br>(2) Print Busy  |
| 11      | PACK        | PCI PCB<br>CN211-11 |  | (1) Acknowledge<br>(2) Printer Clock                              |
| 12      | PSTB        | PCI PCB<br>CN211-12 |  | (1) Data Strobe<br>(2) Host Clock                                 |
| 13      | FAULT       | PCI PCB<br>CN211-13 |  | (1) Printer Error<br>(2) _____                                    |

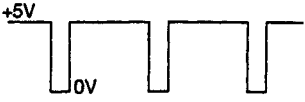
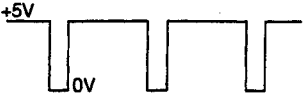
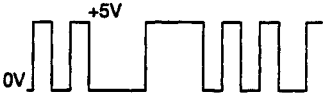

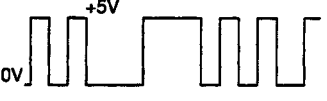
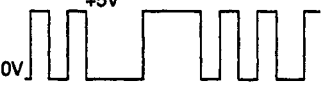

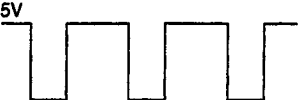
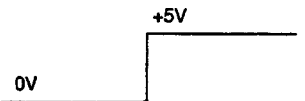
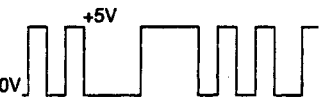
## CN13 (2/2)

[ (1) : Printer Interface, (2) PC Interface ]





| Pin No. | Signal Name | Destination         | Signal Waveform | Function   |
|---------|-------------|---------------------|-----------------|--|
| 14      | PE          | PCI PCB<br>CN211-14 |                 | (1) Printer out of Paper<br>(2) Data bit 2.6 or Ack Data Request     |
| 15      | PD0         | PCI PCB<br>CN211-15 |                 | Data Signal  |
| 16      | PD1         | PCI PCB<br>CN211-16 |                 | Data Signal  |
| 17      | PD2         | PCI PCB<br>CN211-17 |                 | Data Signal  |
| 18      | PD3         | PCI PCB<br>CN211-18 |                 | Data Signal  |
| 19      | PD4         | PCI PCB<br>CN211-19 |                 | Data Signal  |
| 20      | PD5         | PCI PCB<br>CN211-20 |                 | Data Signal  |
| 21      | PD6         | PCI PCB<br>CN211-21 |                 | Data Signal  |
| 22      | PD7         | PCI PCB<br>CN211-22 |                 | Data Signal  |
| 23      | SELECT      | PCI PCB<br>CN211-23 |                 | (1) Printer On Line<br>(2) Data bit 1.5<br>(IEEE 1284 x Flag Signal) |
| 24      | AUTOFD      | PCI PCB<br>CN211-24 |                 | (1) Auto Return Signal<br>(2) Host Busy                              |
| 25      | nRES        | PCI PCB<br>CN211-25 |                 | Reset Signal   |
| 26      | GND         | PCI PCB<br>CN211-26 |                 | Ground   |




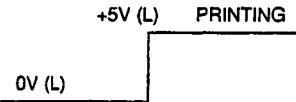

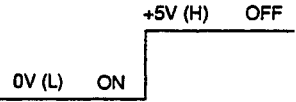
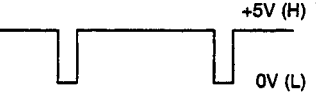

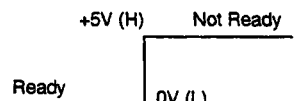
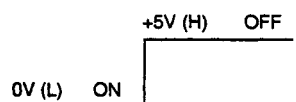


## CN14 (1/2)

| Pin No. | Signal Name | Destination    | Signal Waveform   | Function                    |
|---------|-------------|----------------|---|-----------------------------|
| 1       | nRD         | OPT<br>CN50-17 |    | read Signal for MPSC,PPI    |
| 2       | nWRL        | OPT<br>CN50-16 |    | Write Signal for MPSC,PPI   |
| 3       | A1          | OPT<br>CN50-12 |    | Address Signal              |
| 4       | A2          | OPT<br>CN50-11 |   |                             |
| 5       | nMPSC       | OPT<br>CN50-14 |    | Chip Select Signal for MPSC |
| 6       | N.C.        | Not Used       |   |                             |
| 7       | MSOD        | OPT<br>CN50-24 |  | Serial TX Data Signal       |
| 8       | MSID        | OPT<br>CN50-25 |  | Serial RX Data Signal       |
| 9       | MSCK        | OPT<br>CN50-26 |  | Data Clock                  |
| 10      | nPIO        | OPT<br>CN50-15 |  | Chip Select Signal for PPI  |
| 11      | nENOPT      | OPT<br>CN50-20 |  | Option Detect Signal        |
| 12      | AD7         | OPT<br>CN50-1  |  | Data Signal                 |
| 13      | AD6         | OPT<br>CN50-2  |   |                             |

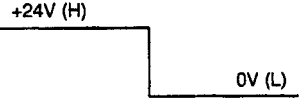






## CN14 (2/2)

| Pin No. | Signal Name | Destination    | Signal Waveform  | Function    |
|---------|-------------|----------------|--|-------------|
| 14      | AD5         | OPT<br>CN50-3  |    | Data Signal |
| 15      | AD4         | OPT<br>CN50-4  |  |             |
| 16      | AD3         | OPT<br>CN50-5  |  |             |
| 17      | AD2         | OPT<br>CN50-6  |  |             |
| 18      | AD1         | OPT<br>CN50-7  |  |             |
| 19      | AD0         | OPT<br>CN50-8  |  |             |
| 20      | +12V        | OPT<br>CN50-30 |  | +12V        |
| 21      | GND         | OPT<br>CN50-27 |  | Ground      |
| 22      | -12V        | OPT<br>CN50-31 |  | -12V        |

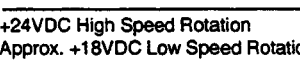
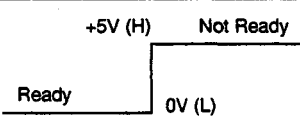

## CN51

| Pin No. | Signal Name | Destination   | Signal Waveform   | Function                                    |
|---------|-------------|---------------|---|---|
| 1       | nHSYNC      | LSU<br>P101-1 |   | H-SYNC Video Signal                         |
| 2       | L +5V       | LSU<br>P101-2 |    | +5V Power Supply for<br>Laser Drive Circuit |
| 3       | GND         | LSU<br>P101-3 |    | Ground                                      |
| 4       | nLDON       | LSU<br>P101-4 |    | Laser Control Signal                        |
| 5       | nVIDEO      | LSU<br>P101-5 |  | Video Data<br>L=Black, H=White              |
| 6       | GND         | LSU<br>P101-6 |  | Ground                                      |
| 7       | nPMCK       |               |   | Not Used                                    |
| 8       | nPMRY       | LSU<br>CN1-1  |  | Polygon Motor Ready Signal                  |
| 9       | nPMON       | LSU<br>CN1-3  |  | Polygon Motor Control Signal                |
| 10      | MGND        | LSU<br>CN1-2  |  | Frame Ground                                |
| 11      | +24VM       | LSU<br>CN1-4  |  | +24 VDC Power Supply                        |

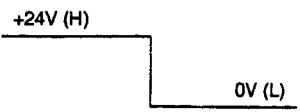
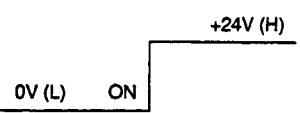
**CN52**

| Pin No. | Signal Name | Destination    | Signal Waveform  | Function                         |
|---------|-------------|----------------|--|----------------------------------|
| 1       | +24VM       | HVPS<br>CN39-1 |    | +24 VDC Power Supply             |
| 2       | nCR0        | HVPS<br>CN39-2 |    | Charge Control AC Output         |
| 3       | nCR1        | HVPS<br>CN39-3 |    | Charge Control DC Output         |
| 4       | nDR0        | HVPS<br>CN39-4 |    | Development Control AC+DC Output |
| 5       | nTR0        | HVPS<br>CN39-5 |    | Transfer Control Cleaning Output |
| 6       | nTR1        | HVPS<br>CN39-6 |  | Transfer Control Transfer Output |
| 7       | MGND        | HVPS<br>CN39-7 |  | Ground                           |

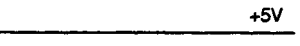
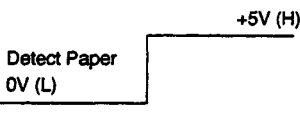



**CN54**

| Pin No. | Signal Name | Destination | Signal Waveform  | Function           |
|---------|-------------|-------------|--|--------------------|
| 1       | +24VDR      | Fan         |  | Fan Control Signal |
| 2       | nFNRTDT     | Fan         |  | Fan Ready Signal   |
| 3       | MGND        | Fan         |  | Ground             |

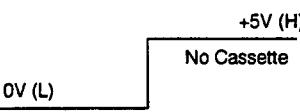

**CN55**

| Pin No. | Signal Name | Destination         | Signal Waveform   | Function                                  |
|---------|-------------|---------------------|---|---|
| 1       | +24VM       | Paper Feed Solenoid |  | +24 VDC Power Supply                      |
| 2       | nADF1       | Paper Feed Solenoid |  | Paper Feed Roller Solenoid Control Signal |






**CN56**

| Pin No. | Signal Name | Destination               | Signal Waveform   | Function                              |
|---------|-------------|---------------------------|---|---------------------------------------|
| 1       | +5V         | Thermistor CN115-1        |    | +5 VDC Power Supply                   |
| 2       | THERM       | Thermistor CN115-2        | Analog Signal   | Fuser Thermistor Voltage Level Signal |
| 3       | nESEN       | Paper Exit Sensor CN112-1 |  | Paper Exit Sensor Detection Signal    |
| 4       | GND         | Paper Exit Sensor CN112-2 |  | Ground                                |
| 5       | LDSE        | Paper Exit Sensor CN112-3 | Approx. +2 VDC  | Paper Exit Sensor LED Drive Current   |
| 6       | nPCHK1      | No Paper Sensor CN111-1   |  | No Paper Detection Signal             |
| 7       | GND         | No Paper Sensor CN111-2   |  | Ground                                |
| 8       | LDSP1       | No Paper Sensor CN111-3   | Approx. +2 VDC  | No Paper Sensor LED Drive Current     |


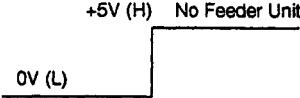
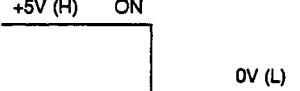
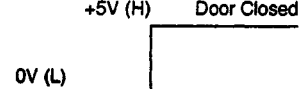

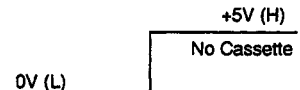
**CN57**

| Pin No. | Signal Name | Destination            | Signal Waveform  | Function                     |
|---------|-------------|------------------------|--|------------------------------|
| 1       | nCCHK1      | Cassette Detect Sensor |  | No Cassette Detection Signal |
| 2       | NC          |                        |  | Not Connected                |
| 3       | GND         | Cassette Detect Sensor |  | Ground                       |

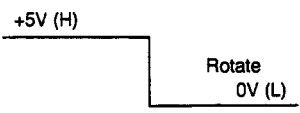



**CN58 (1/2)**

| Pin No. | Signal Name | Destination    | Signal Waveform  | Function                           |
|---------|-------------|----------------|--|------------------------------------|
| 1       | nSDO        | CST2<br>CN81-1 |  | 500 Sheets Cassette<br>I/F TX DATA |
| 2       | nSDI        | CST2<br>CN81-2 |  | 500 Sheets Cassette<br>I/F RX DATA |
| 3       | nSCK        | CST2<br>CN81-3 |  | 500 Sheets Cassette<br>I/F CLOCK   |
| 4       | pOPRST      | CST2<br>CN81-4 |  | 500 Sheets Cassette<br>Reset       |
| 5       | MGND        | CST2<br>CN81-5 |  | Ground                             |
| 6       | MGND        | CST2<br>CN81-6 |  | Ground                             |
| 7       | +24V        | CST2<br>CN81-7 |  | +24 VDC Power Supply               |
| 8       | +24VM       | CST2<br>CN81-8 |  | +24 VDC Power Supply               |
| 9       | +5V         | CST2<br>CN81-9 |  | +5 VDC Power Supply                |


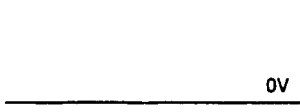

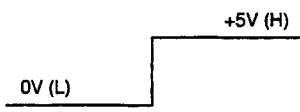
CN58 (2/2)

| Pin No. | Signal Name | Destination     | Signal Waveform   | Function  |
|---------|-------------|-----------------|---|---|
| 10      | GND         | CST2<br>CN81-10 |    | Ground  |
| 11      | nOP         | CST2<br>CN81-11 |    | 250 sheets Feeder Unit Detection Signal                       |
| 12      | pADF2       | CST2<br>CN81-12 |    | Feed Roller Drive Clutch Control Signal (250 sheets Cassette) |
| 13      | nPDOR2      | CST2<br>CN81-13 |    | Jam Cover Sensor Detection Signal                             |
| 14      | nPCHK2      | CST2<br>CN81-14 |    | No Paper Detection Signal (250 sheets Cassette)               |
| 15      | nSIZE23     | CST2<br>CN81-15 |   | Not Used  |
| 16      | nCCHK2      | CST2<br>CN81-16 |  | No Cassette Detection Signal (250 sheets Cassette)            |
| 17      | nSIZE22     | CST2<br>CN81-17 |   | Same CN61   |
| 18      | nSIZE21     | CST2<br>CN81-18 |   | Same CN61   |

**CN59**



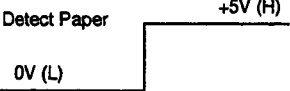

| Pin No. | Signal Name | Destination   | Signal Waveform  | Function            |
|---------|-------------|---------------|--|---------------------|
| 1       | nMMP3       | Printer Motor |  | Rotate Signal       |
| 2       | nMMP2       | Printer Motor |  | Motor Ready Signal  |
| 3       | +24VM       | Printer Motor |  | +24VDC Power Supply |
| 4       | MGND        | Printer Motor |  | Ground              |

**CN61**


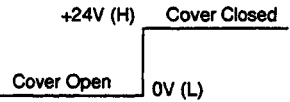
| Pin No. | Signal Name | Destination    | Signal Waveform  | Function   |         |   |   |   |   |         |   |   |   |   |
|---------|-------------|----------------|--|--|---------|---|---|---|---|---------|---|---|---|---|
| 1       | nSIZE11     | SSN<br>CN101-1 |  | <table><tr><td>nSIZE11</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>nSIZE12</td><td>L</td><td>L</td><td>H</td><td>H</td></tr></table> <div style="text-align: center;"><div style="display: flex; justify-content: space-around; width: 100%;"><div style="text-align: center;">↑<br/>LTR</div><div style="text-align: center;">↑<br/>LGL</div><div style="text-align: center;">↑<br/>A4</div></div></div> | nSIZE11 | L | H | L | H | nSIZE12 | L | L | H | H |
| nSIZE11 | L           | H              | L  |  | H       |   |   |   |   |         |   |   |   |   |
| nSIZE12 | L           | L              | H  |  | H       |   |   |   |   |         |   |   |   |   |
| 2       | GND         | SSN<br>CN101-2 |  |  |         |   |   |   |   |         |   |   |   |   |
| 3       | N.C.        |                |  |  |         |   |   |   |   |         |   |   |   |   |
| 4       | nSIZE12     | SSN<br>CN101-4 |  |  |         |   |   |   |   |         |   |   |   |   |
| 5       | GND         | SSN<br>CN101-5 |  |  |         |   |   |   |   |         |   |   |   |   |
| 6       | N.C.        |                |  |  |         |   |   |   |   |         |   |   |   |   |



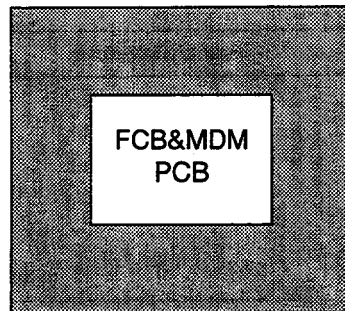
# CN62

| Pin No. | Signal Name | Destination              | Signal Waveform   | Function                        |
|---------|-------------|--------------------------|---|---------------------------------|
| 1       | GND         | Toner Sensor<br>CN114-1  |  0V                | Ground                          |
| 2       | TONER       | Toner Sensor<br>CN114-2  | Analog Signal   | Remaining Toner Level Signal    |
| 3       | +5V         | Toner Sensor<br>CN114-3  |  +5V               | +5 VDC Power Supply             |
| 4       | nRSEN       | Timing Sensor<br>CN113-1 |  +5V (H)<br>0V (L) | Timing Sensor Detection Signal  |
| 5       | GND         | Timing Sensor<br>CN113-2 |  0V                | Ground                          |
| 6       | LDSR        | Timing Sensor<br>CN113-3 | Approx.+2VDC  | Timing Sensor LED Drive Current |

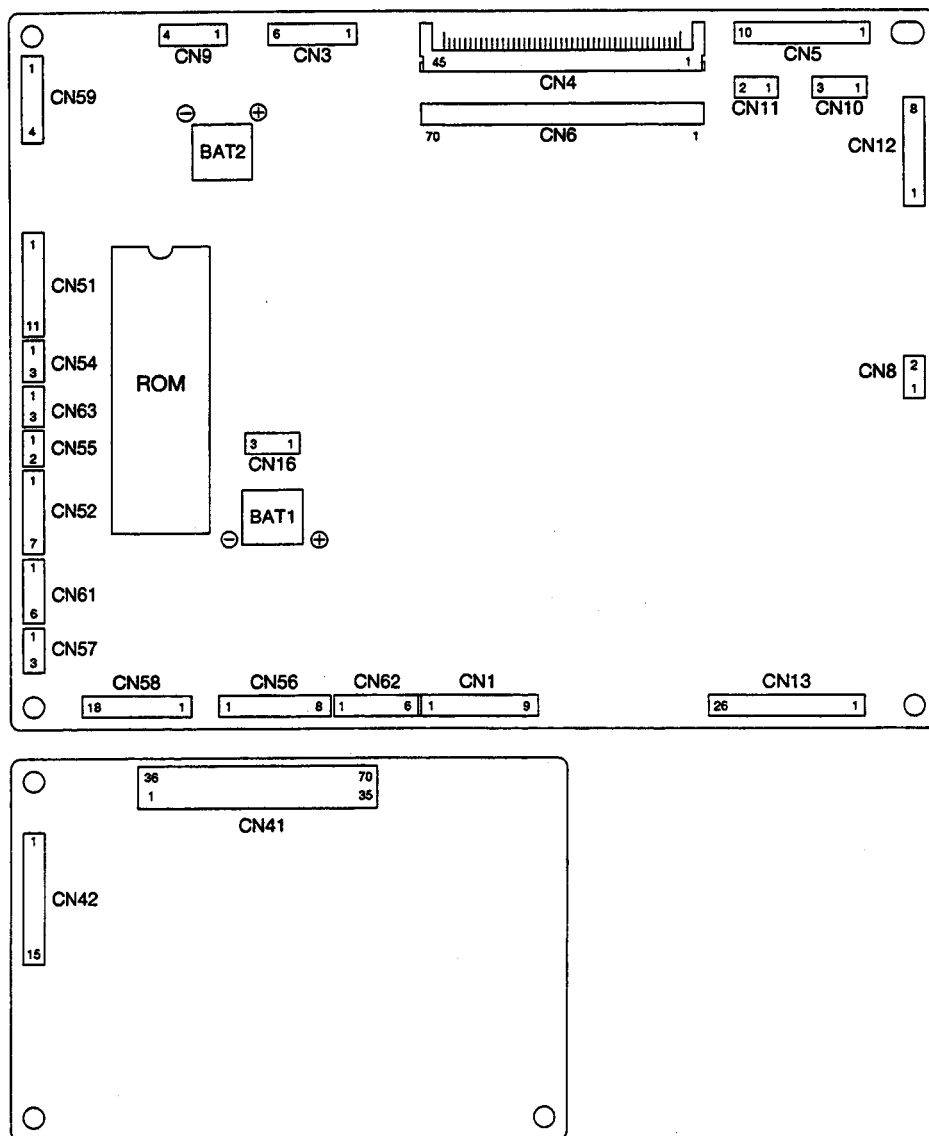
# CN63

| Pin No. | Signal Name | Destination       | Signal Waveform  | Function                       |
|---------|-------------|-------------------|--|--------------------------------|
| 1       | +24V        | ILS PCB<br>CN73-1 |  +24V                                       | +24 VDC Power Supply           |
| 2       | NC          |                   |  | Not Connected                  |
| 3       | +24VD       | ILS PCB<br>CN73-3 |  +24V (H) Cover Closed<br>Cover Open 0V (L) | Printer Cover Detection Signal |

### 3.8.2 FCB PCB and MDM PCB (UF-880)




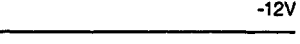

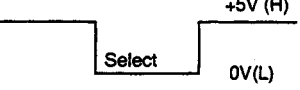




Back Side View






**CN1-63 :**

**Refer to 3.8.1, FCB PCB (UF-770).**

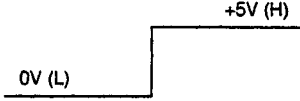





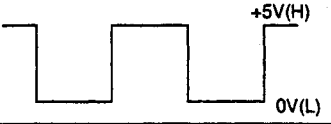

**CN6 (1/5)**

| Pin No. | Signal Name | Destination    | Signal Waveform   | Function                     |
|---------|-------------|----------------|---|------------------------------|
| 1       | GND         | MDM<br>CN41-1  |    | Ground                       |
| 2       | AGND        | MDM<br>CN41-2  |   | Analog Ground                |
| 3       | AGND        | MDM<br>CN41-3  |   | Analog Ground                |
| 4       | -12V        | MDM<br>CN41-4  |    | -12VDC Power Supply          |
| 5       | +12V        | MDM<br>CN41-5  |    | +12VDC Power Supply          |
| 6       | nEPP        | MDM<br>CN41-6  |  | EPP(IC13) Chip Select Signal |
| 7       | nWRL        | MDM<br>CN41-7  |  | Write Enable Signal (L)      |
| 8       | nWRH        | MDM<br>CN41-8  |   | Write Enable Signal (H)      |
| 9       | nWAIT       | MDM<br>CN41-9  |  | CPU Data Wait Control Signal |
| 10      | LCLK        | MDM<br>CN41-10 |  | System Clock (16MHz)         |
| 11      | AD[0]       | MDM<br>CN41-11 |  | Data Bus [0]                 |
| 12      | AD[1]       | MDM<br>CN41-12 |   | Data Bus [1]                 |
| 13      | AD[2]       | MDM<br>CN41-13 |   | Data Bus [2]                 |
| 14      | AD[3]       | MDM<br>CN41-14 |   | Data Bus [3]                 |

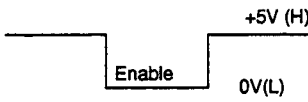
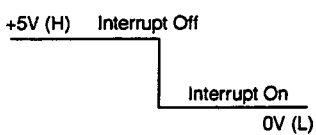

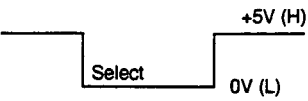
## CN6 (2/5)

| Pin No. | Signal Name | Destination    | Signal Waveform  | Function                          |
|---------|-------------|----------------|--|-----------------------------------|
| 15      | AD[4]       | MDM<br>CN41-15 |    | Data Bus [4]                      |
| 16      | AD[5]       | MDM<br>CN41-16 |  | Data Bus [5]                      |
| 17      | AD[6]       | MDM<br>CN41-17 |  | Data Bus [6]                      |
| 18      | AD[7]       | MDM<br>CN41-18 |  | Data Bus [7]                      |
| 19      | nMDRST      | MDM<br>CN41-19 |    | MDM Reset Signal<br>(Reset by 0V) |
| 20      | A[11]       | MDM<br>CN41-20 |  | Address Bus [11]                  |
| 21      | A[10]       | MDM<br>CN41-21 |  | Address Bus [10]                  |
| 22      | A[9]        | MDM<br>CN41-22 |  | Address Bus [9]                   |
| 23      | A[8]        | MDM<br>CN41-23 |  | Address Bus [8]                   |
| 24      | A[7]        | MDM<br>CN41-24 |  | Address Bus [7]                   |
| 25      | A[6]        | MDM<br>CN41-25 |  | Address Bus [6]                   |
| 26      | A[5]        | MDM<br>CN41-26 |  | Address Bus [5]                   |
| 27      | A[4]        | MDM<br>CN41-27 |  | Address Bus [4]                   |
| 28      | A[3]        | MDM<br>CN41-28 |  | Address Bus [3]                   |

## CN6 (3/5)

| Pin No. | Signal Name | Destination    | Signal Waveform  | Function                                |
|---------|-------------|----------------|--|---|
| 29      | A[2]        | MDM<br>CN41-29 |     | Address Bus [2]                         |
| 30      | A[1]        | MDM<br>CN41-30 |  | Address Bus [1]                         |
| 31      | RAS[1]      | MDM<br>CN41-31 |  | Not Used                                |
| 32      | CASH        | MDM<br>CN41-32 |  | Not Used                                |
| 33      | CASL        | MDM<br>CN41-33 |  | Not Used                                |
| 34      | +5V         | MDM<br>CN41-34 |    | +5VDC Power Supply                      |
| 35      | GND         | MDM<br>CN41-35 |   | Ground                                  |
| 36      | GND         | MDM<br>CN41-36 |  | Ground                                  |
| 37      | +24V        | MDM<br>CN41-37 |   | +24VDC Power Supply                     |
| 38      | AGND        | MDM<br>CN41-38 |   | Analog Ground                           |
| 39      | SPKGND      | MDM<br>CN41-39 |  | Speker Ground                           |
| 40      | pSPKOT      | MDM<br>CN41-40 |   | Line Signal, Key Tone, Ringing          |
| 41      | pBZCLK      | MDM<br>CN41-41 |  | Buzzer Clock                            |
| 42      | nEPRST      | MDM<br>CN41-42 |  | EPP(IC13) Reset Signal<br>(Reset by 0V) |




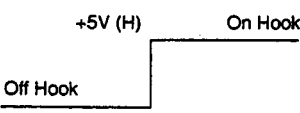
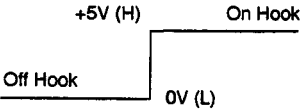

## CN6 (4/5)

| Pin No. | Signal Name | Destination    | Signal Waveform  | Function               |
|---------|-------------|----------------|--|------------------------|
| 43      | nRD         | MDM<br>CN41-43 |    | Read Enable Signal     |
| 44      | nMD1IR1     | MDM<br>CN41-44 |    | MDM Interrupt Signal 1 |
| 45      | nMD1IR2     | MDM<br>CN41-45 |  | MDM Interrupt Signal 2 |
| 46      | AD[8]       | MDM<br>CN41-46 |  | Data Bus [8]           |
| 47      | AD[9]       | MDM<br>CN41-47 |  | Data Bus [9]           |
| 48      | AD[10]      | MDM<br>CN41-48 |  | Data Bus [10]          |
| 49      | AD[11]      | MDM<br>CN41-49 |  | Data Bus [11]          |
| 50      | AD[12]      | MDM<br>CN41-50 |  | Data Bus [12]          |
| 51      | AD[13]      | MDM<br>CN41-51 |  | Data Bus [13]          |
| 52      | AD[14]      | MDM<br>CN41-52 |  | Data Bus [14]          |
| 53      | AD[15]      | MDM<br>CN41-53 |  | Data Bus [15]          |
| 54      | nMDM        | MDM<br>CN41-54 |  | MDM Chip Select Signal |
| 55      | A[22]       | MDM<br>CN41-55 |  | Not Used               |
| 56      | A[21]       | MDM<br>CN41-56 |  | Not Used               |

## CN6 (5/5)

| Pin No. | Signal Name | Destination    | Signal Waveform | Function |
|---------|-------------|----------------|-----------------|----------|
| 57      | A[20]       | MDM<br>CN41-57 |                 | Not Used |
| 58      | A[19]       | MDM<br>CN41-58 |                 | Not Used |
| 59      | A[18]       | MDM<br>CN41-59 |                 | Not Used |
| 60      | A[17]       | MDM<br>CN41-60 |                 | Not Used |
| 61      | A[16]       | MDM<br>CN41-61 |                 | Not Used |
| 62      | A[15]       | MDM<br>CN41-62 |                 | Not Used |
| 63      | A[14]       | MDM<br>CN41-63 |                 | Not Used |
| 64      | A[13]       | MDM<br>CN41-64 |                 | Not Used |
| 65      | A[12]       | MDM<br>CN41-65 |                 | Not Used |
| 66      | nDWT        | MDM<br>CN41-66 |                 | Not Used |
| 67      | nDRD        | MDM<br>CN41-67 |                 | Not Used |
| 68      | nFROM       | MDM<br>CN41-68 |                 | Not Used |
| 69      | nROM        | MDM<br>CN41-69 |                 | Not Used |
| 70      | GND         | MDM<br>CN41-70 | 0V              | Ground   |

**CN42 (1/2)**

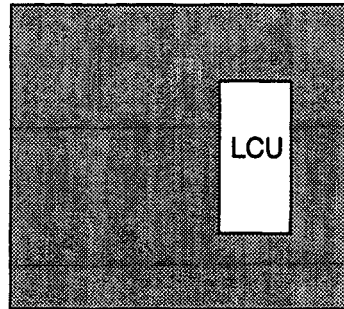
| Pin No. | Signal Name | Destination         | Signal Waveform  | Function  |
|---------|-------------|---------------------|--|---|
| 1       | nETSW       | LCU PCB<br>CN 25-1  |  | Not Used  |
| 2       | +5V         | LCU PCB<br>CN 25-2  |    | +5V VDC Power Supply  |
| 3       | GND         | LCU PCB<br>CN 25-3  |    | Ground  |
| 4       | +24V        | LCU PCB<br>CN 25-4  |    | +24V VDC Power Supply   |
| 5       | pCMLD       | LCU PCB<br>CN 25-5  | H=FAX Side, L=Telephone Side   | Line Switching Relay Drive  |
| 6       | pPLSD       | LCU PCB<br>CN 25-6  | H=Make, L=Break  | Pulse Dial Relay Drive  |
| 7       | RMCK        | LCU PCB<br>CN 25-7  |  | Not Used  |
| 8       | nHSDT/RMCS  | LCU PCB<br>CN 25-8  |  | Handset Off-Hook Detection Signal   |
| 9       | nHKOF/RMDT  | LCU PCB<br>CN 25-9  |  | External Phone Off-Hook Detection Signal<br>(Phone Line must be connected.) |
| 10      | nCTON       | LCU PCB<br>CN 25-10 | H=Standby Mode, L=Ring in  | Ring Detection Signal   |
| 11      | HYBSR       | LCU PCB<br>CN 25-11 |  | Line Transformer Input Signal   |
| 12      | GND         | LCU PCB<br>CN 25-12 |  | Ground  |
| 13      | HYSIG       | LCU PCB<br>CN 25-13 |  | Not Used  |



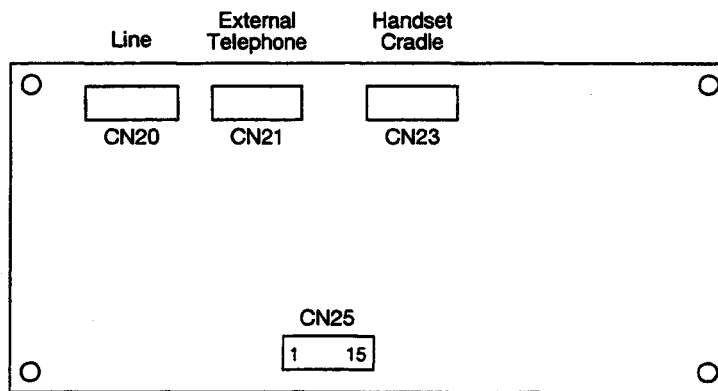
**CN42 (2/2)**

| Pin No. | Signal Name | Destination        | Signal Waveform | Function |
|---------|-------------|--------------------|-----------------|----------|
| 14      | pTCKD       | LCU PCB<br>CN25-14 |                 | Not Used |
| 15      | pEAKD       | LCU PCB<br>CN25-15 |                 | Not Used |

### 3.9 LCU PCB



Back Side View



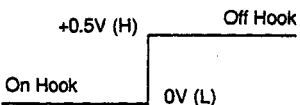

**CN20**

| Pin No. | Signal Name | Destination    | Signal Waveform | Function    |
|---------|-------------|----------------|-----------------|-------------|
| 3       | L2 (T)      | Telephone Line |                 | Line Signal |
| 4       | L1 (R)      | Telephone Line |                 | Line Signal |

**CN21**

| Pin No. | Signal Name | Destination        | Signal Waveform | Function                               |
|---------|-------------|--------------------|-----------------|--|
| 3       | T1          | External Telephone |                 | Line Signal for the External Telephone |
| 4       | T2          | External Telephone |                 | Line Signal for the External Telephone |

**CN23**

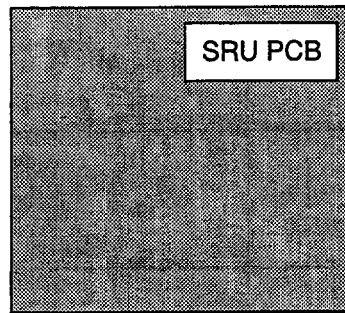
| Pin No. | Signal Name | Destination       | Signal Waveform   | Function                        |
|---------|-------------|-------------------|---|---------------------------------|
| 1       | HLIN1       | SRU PCB<br>CN90-1 |   | Line Signal for the Fax Handset |
| 2       | HLIN2       | SRU PCB<br>CN90-2 |   | Line Signal for the Fax Handset |
| 3       | NC          | SRU PCB<br>CN90-3 |   | Not Connected                   |
| 4       | AIS         | SRU PCB<br>CN90-4 |  | Switch Hook Signal              |
| 5       | AI          | SRU PCB<br>CN90-5 |  | Ground                          |

**CN25**

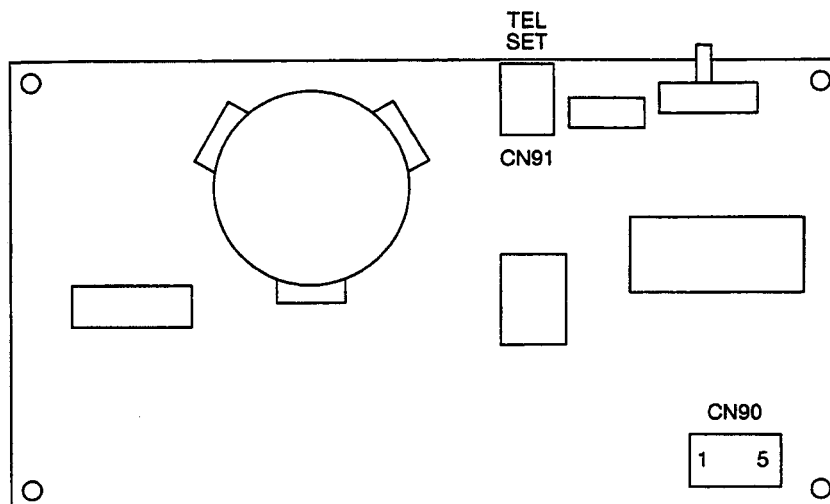
Refer to FCB PCB CN7. (UF-770)

Refer to FCB PCB CN42. (UF-880)


### **3.10 SRU PCB (Optional)**



**Back Side View**



**CN91**

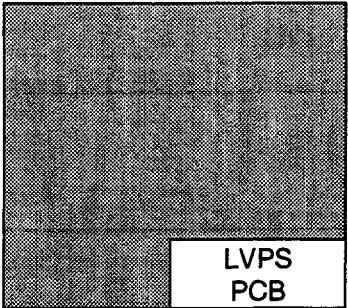
| Pin No. | Signal Name | Destination             | Signal Waveform   | Function           |
|---------|-------------|-------------------------|---|--------------------|
| 1       | NC          |                         |   | Not Connected      |
| 2       | MIC (+)     | Telephone Handset<br>CN |   | Handset Microphone |
| 3       | RCV (+)     | Telephone Handset<br>CN |   | Handset Receiver   |
| 4       | RCV (-)     | Telephone Handset<br>CN |   | Handset Receiver   |
| 5       | MIC (-)     | Telephone Handset<br>CN |   | Handset Microphone |
| 6       | TGND        |                         |  | Ground             |

**CN90**

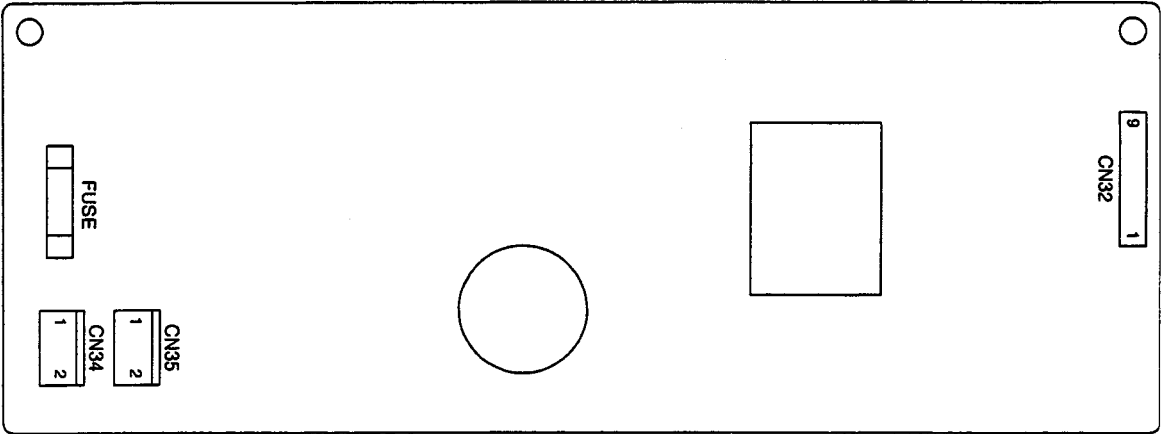
Refer to LCU PCB CN23.

3.11 Low Voltage Power Supply PCB (LVPS)

Top View



Back Side



**CN34**

| Pin No. | Signal Name | Destination | Signal Waveform | Function           |
|---------|-------------|-------------|-----------------|--------------------|
| 1       | LIVE        | ACI PCB     |                 | AC Input (Live)    |
| 2       | NEUTRAL     | ACI PCB     |                 | AC Input (Neutral) |

**CN35**

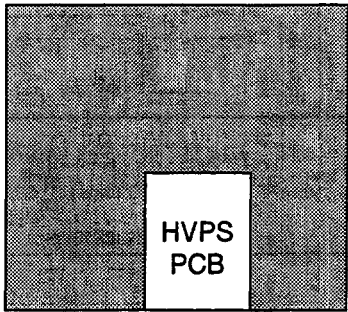
| Pin No. | Signal Name | Destination         | Signal Waveform | Function                |
|---------|-------------|---------------------|-----------------|-------------------------|
| 1       | HEAT1       | Fuser Unit<br>CN116 |                 | Fuser Lamp AC (Live)    |
| 2       | HEAT2       | Fuser Unit<br>CN117 |                 | Fuser Lamp AC (Neutral) |

**CN32**

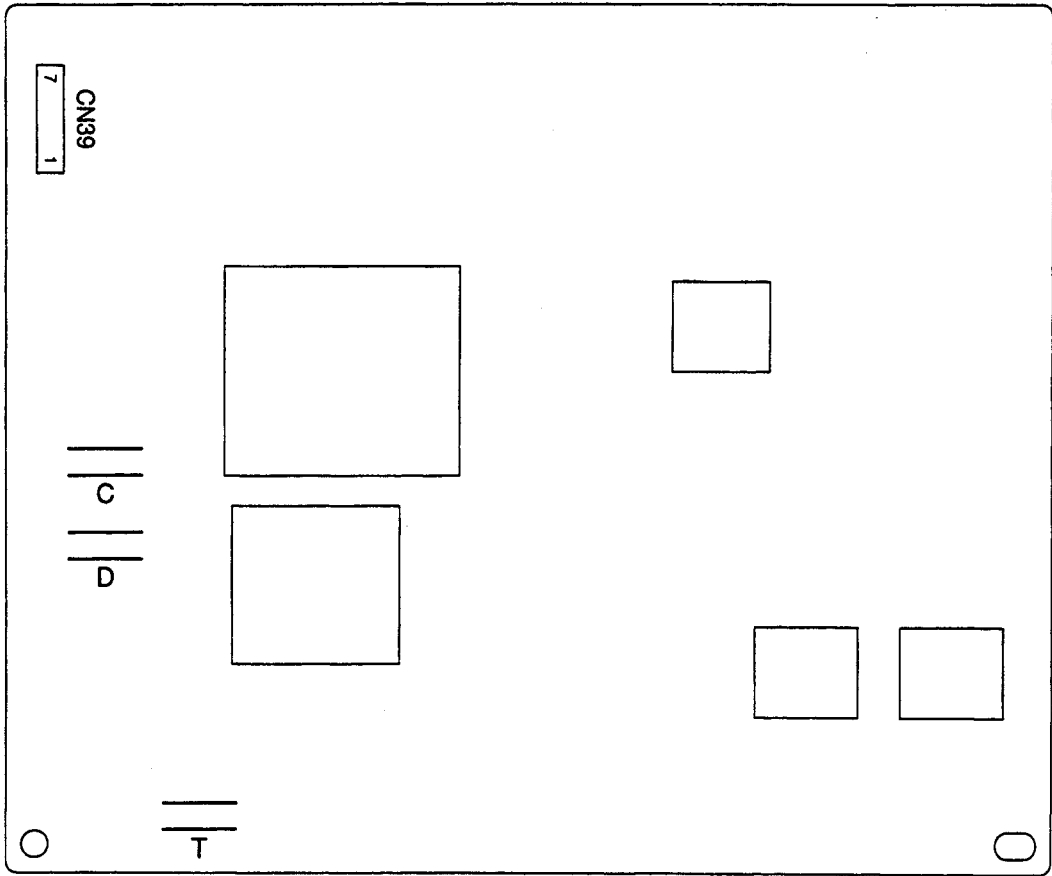
Refer to FCB PCB CN1.

3.12 High Voltage Power Supply PCB (HVPS)

Top View

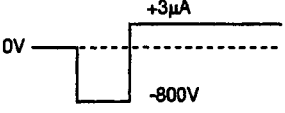
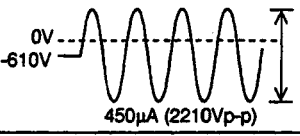
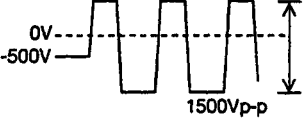


Front Side





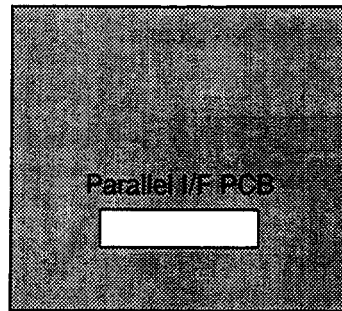
# High Voltage Output

| Pin No. | Signal Name | Destination          | Signal Waveform   | Function  |
|---------|-------------|----------------------|---|---|
| T       | Transfer    | Bias Transfer Roller |  | (1) Transfer Current (: +3 $\mu$ A)<br>(2) Cleaning Voltage (: -800 V)      |
| C       | Charge      | Bias Charge Roller   |  | Charge Current : 450 $\mu$ A<br>(AC300 Hz Sine Wave)<br>& DC Charge Voltage |
| D       | Development | Development Roller   |  | Development Voltage<br>(AC1.7 kHz Square Wave)<br>& DC Voltage              |

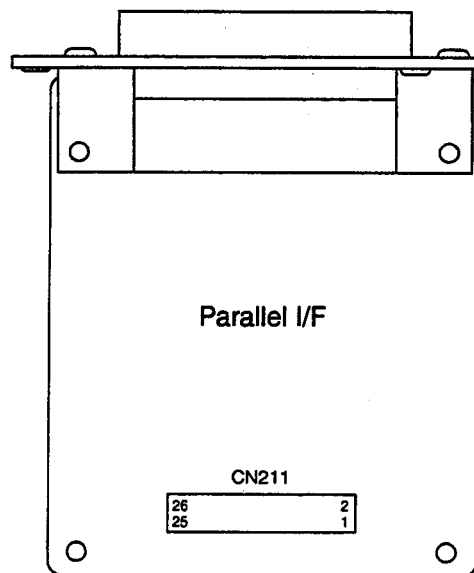
## CN39

Refer to FCB PCB CN52.

### 3.13 Parallel Interface PCB (Option)



Back Side View

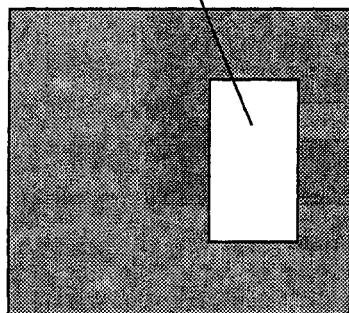


#### **CN211**

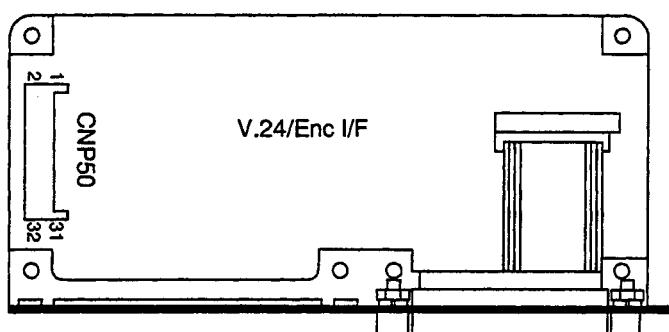
Refer to FCB PCB CN13.

### 3.14 V.24/Encryption Interface PCB (Option)


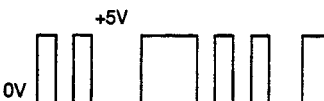
V.24/Encryption Interface Option



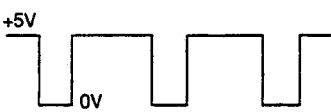

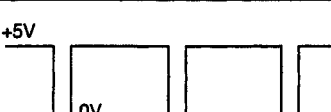
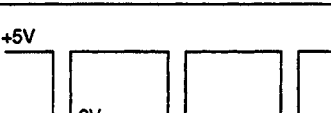
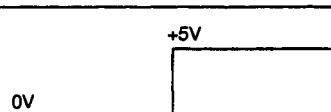
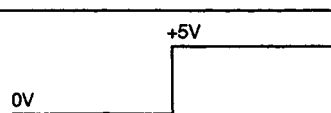
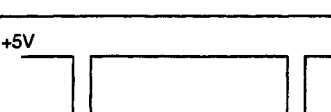
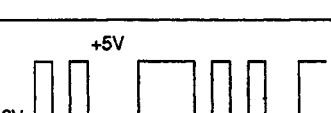
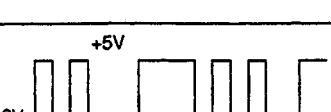

Back Side View



## CN50 (1/3)

| Pin No. | Signal Name | Destination    | Signal Waveform  | Function       |
|---------|-------------|----------------|--|----------------|
| 1       | AD7         | FCB<br>CN14-12 |    | Data Signal    |
| 2       | AD6         | FCB<br>CN14-13 |  |                |
| 3       | AD5         | FCB<br>CN14-14 |  |                |
| 4       | AD4         | FCB<br>CN14-15 |  |                |
| 5       | AD3         | FCB<br>CN14-16 |  |                |
| 6       | AD2         | FCB<br>CN14-17 |  |                |
| 7       | AD1         | FCB<br>CN14-18 |  |                |
| 8       | AD0         | FCB<br>CN14-19 |  |                |
| 9       | N.C         | Not Used       |  |                |
| 10      | N.C         | Not Used       |  |                |
| 11      | A2          | FCB<br>CN14-4  |  | Address Signal |
| 12      | A1          | FCB<br>CN14-3  |  |                |
| 13      | N.C         | Not Used       |  |                |

## CN50 (2/3)

| Pin No. | Signal Name | Destination    | Signal Waveform   | Function                    |
|---------|-------------|----------------|---|-----------------------------|
| 14      | nMPSC       | FCB<br>CN14-5  |    | Chip Select Signal for MPSC |
| 15      | nPIO        | FCB<br>CN14-10 |    | Chip Select Signal for PPI  |
| 16      | nWRL        | FCB<br>CN14-2  |    | Write Signal for MPSC,PPI   |
| 17      | nRD         | FCB<br>CN14-1  |    | Read Signal for MPSC,PPI    |
| 18      | nRES        | FCB<br>CN13-25 |    | Reset Signal                |
| 19      | N.C         | Not Used       |   |                             |
| 20      | nENOPT      | FCB<br>CN14-11 |  | Option Detect Signal        |
| 21      | N.C         | Not Used       |   |                             |
| 22      | N.C         | Not Used       |   |                             |
| 23      | nMPINT      | FCB<br>CN13-24 |  | Interrupt Signal for MPSC   |
| 24      | MSOD        | FCB<br>CN14-7  |  | Serial Tx Data Signal       |
| 25      | MSID        | FCB<br>CN14-8  |  | Serial Rx Data Signal       |
| 26      | MSCK        | FCB<br>CN14-9  |  | Data Clock                  |

**CN50 (3/3)**

| Pin No. | Signal Name | Destination    | Signal Waveform | Function |
|---------|-------------|----------------|-----------------|----------|
| 27      | GND         | FCB<br>CN14-21 | 0V              | Ground   |
| 28      | GND         | FCB<br>CN13-1  | 0V              | Ground   |
| 29      | +5V         | FCB<br>CN13-2  | +5V             | +5V      |
| 30      | +12V        | FCB<br>CN14-20 | +12V            | +12V     |
| 31      | -12V        | FCB<br>CN14-22 | +12V            | -12V     |
| 32      | GND         | FCB<br>CN13-26 | 0V              | Ground   |

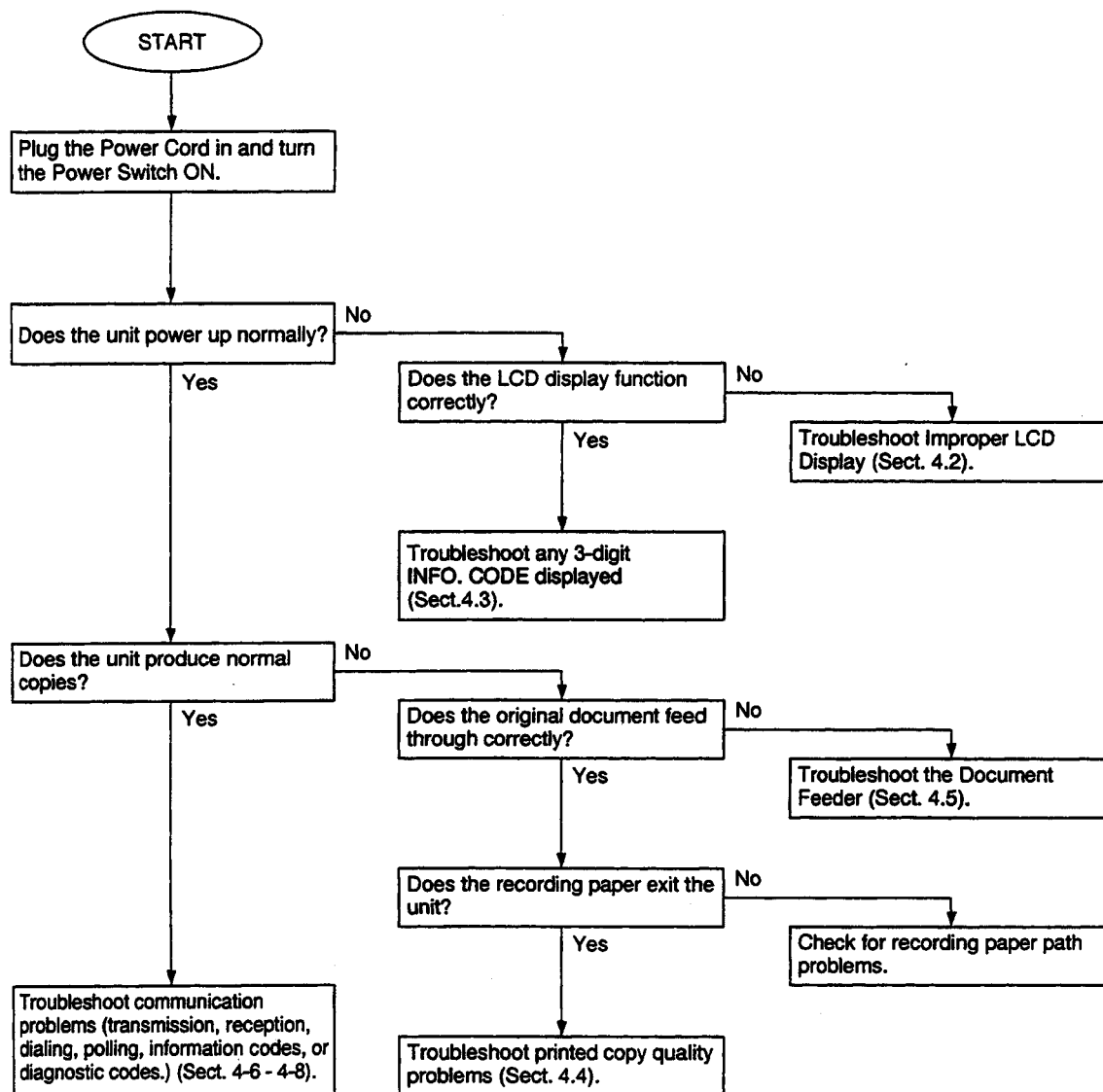
**Note**

## **Chapter 4**

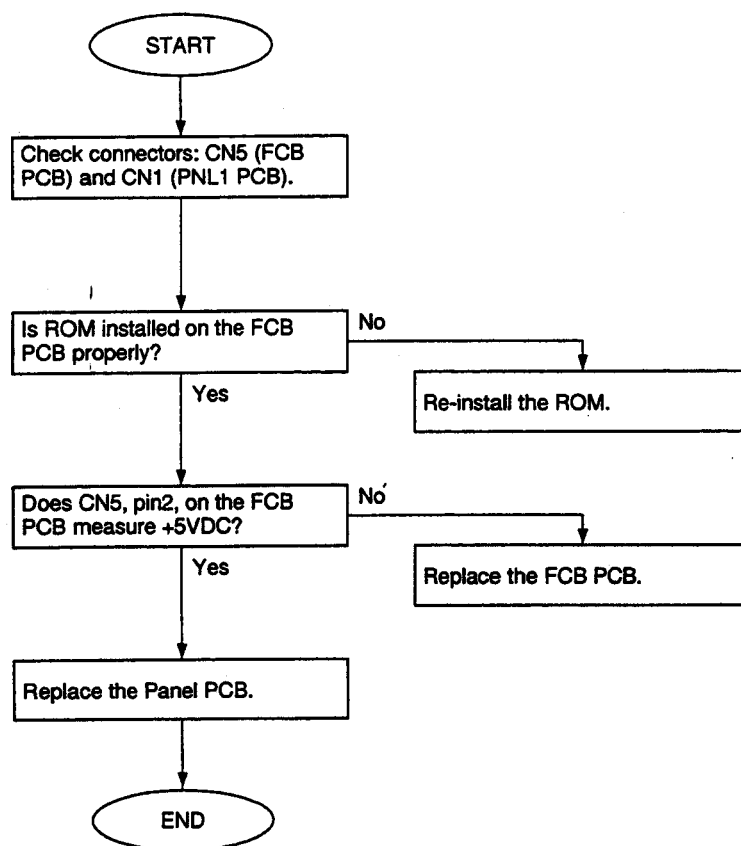
# **Troubleshooting**



## 4.1 Initial Troubleshooting Flowchart



## 4.2 Improper LCD Display

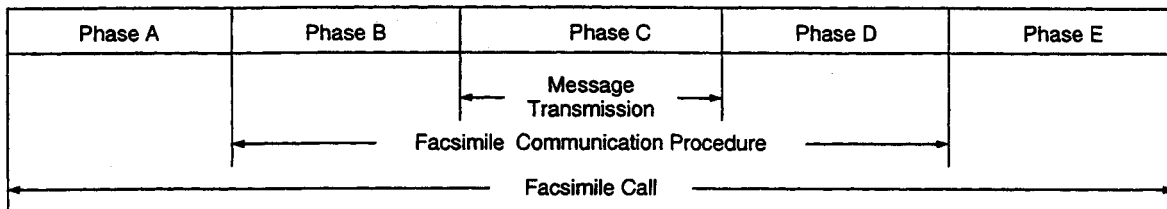


### 4.3 Information Codes (INFO. CODES)

The 3-digit information codes display to show the unit's status. These codes also print on the journal. The following table indicates appropriate sections for troubleshooting.

| Code | Explanation             | Phase | Section | Code | Explanation                 | Phase | Section |
|------|-------------------------|-------|---------|------|-----------------------------|-------|---------|
| 001  | Recording paper jam     | C     | 4.3.8   | 414  | Polling reception error     | B     | 4.3.12  |
| 002  | Recording paper jam     | C,D   | 4.3.8   | 415  | Remote side mis-operation   | B     | 4.3.12  |
| 010  | No recording paper      | B,C   | 4.3.9   | 416  | Reception error             | D     | 4.3.4   |
| 030  | Document misfeeding     | B     | 4.3.10  | 417  | Reception error             | C     | 4.3.5   |
| 031  | Document too long       | C     | 4.3.10  | 418  | Reception error             | C     | 4.3.5   |
| 400  | Transmission error      | B     | 4.3.1   | 420  | Reception error             | B     | 4.3.1   |
| 402  | Transmission error      | B     | 4.3.2   | 422  | Transmission error          | B     | 4.3.2   |
| 403  | Polling reception error | B     | 4.3.12  | 434  | Signal noise level too high | B     | 4.3.6   |
| 404  | Transmission error      | B     | 4.3.3   | 459  | Reception error             | C     | 4.3.7   |
| 405  | Transmission error      | B     | 4.3.3   | 490  | Reception error             | C     | 4.3.5   |
| 407  | Transmission error      | D     | 4.3.3   | 494  | Reception error             | C     | 4.3.7   |
| 408  | Transmission error      | D     | 4.3.5   | 495  | Reception error             | C     | 4.3.7   |
| 409  | Transmission error      | D     | 4.3.5   | 630  | Remote unit busy            | B     | 4.3.11  |
| 411  | Polling reception error | B     | 4.3.12  |      |                             |       |         |

#### Phase



Phase A: Call establishment

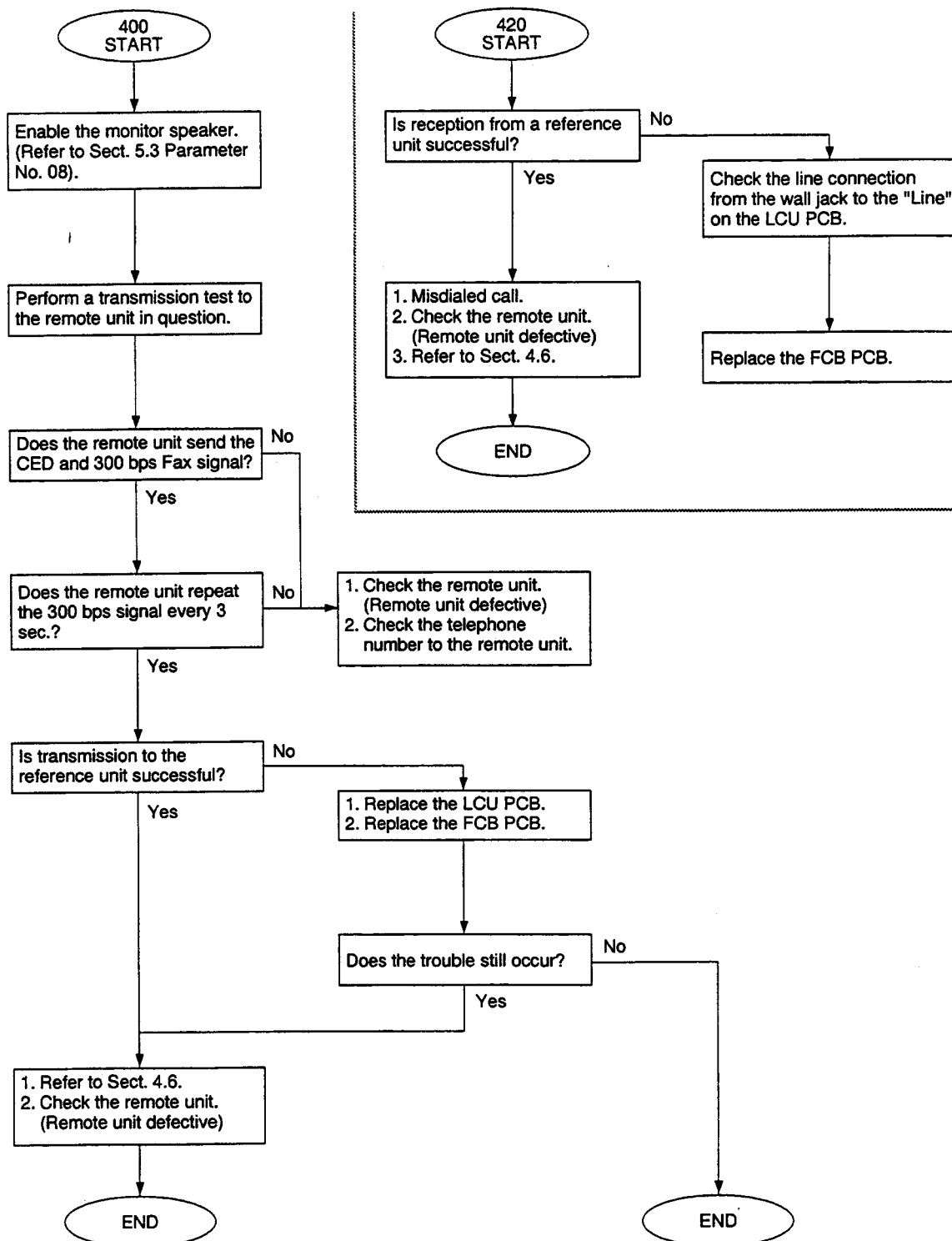
Phase B: Pre-message procedure

Phase C: Message transmission

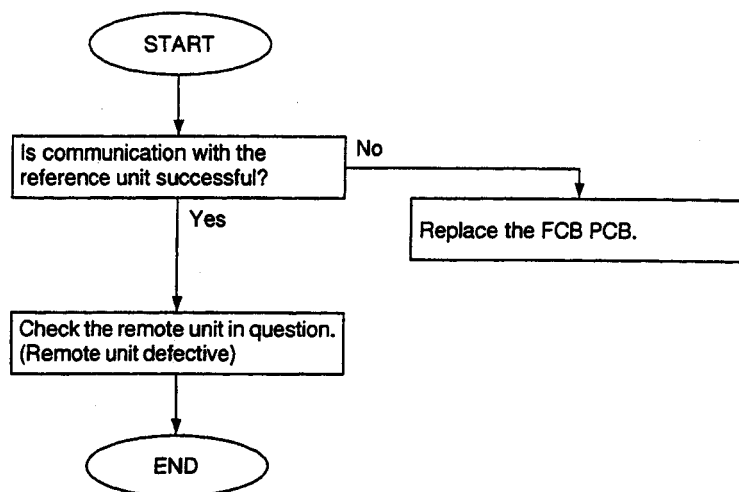
Phase D: Post-message procedure

Phase E: Call release

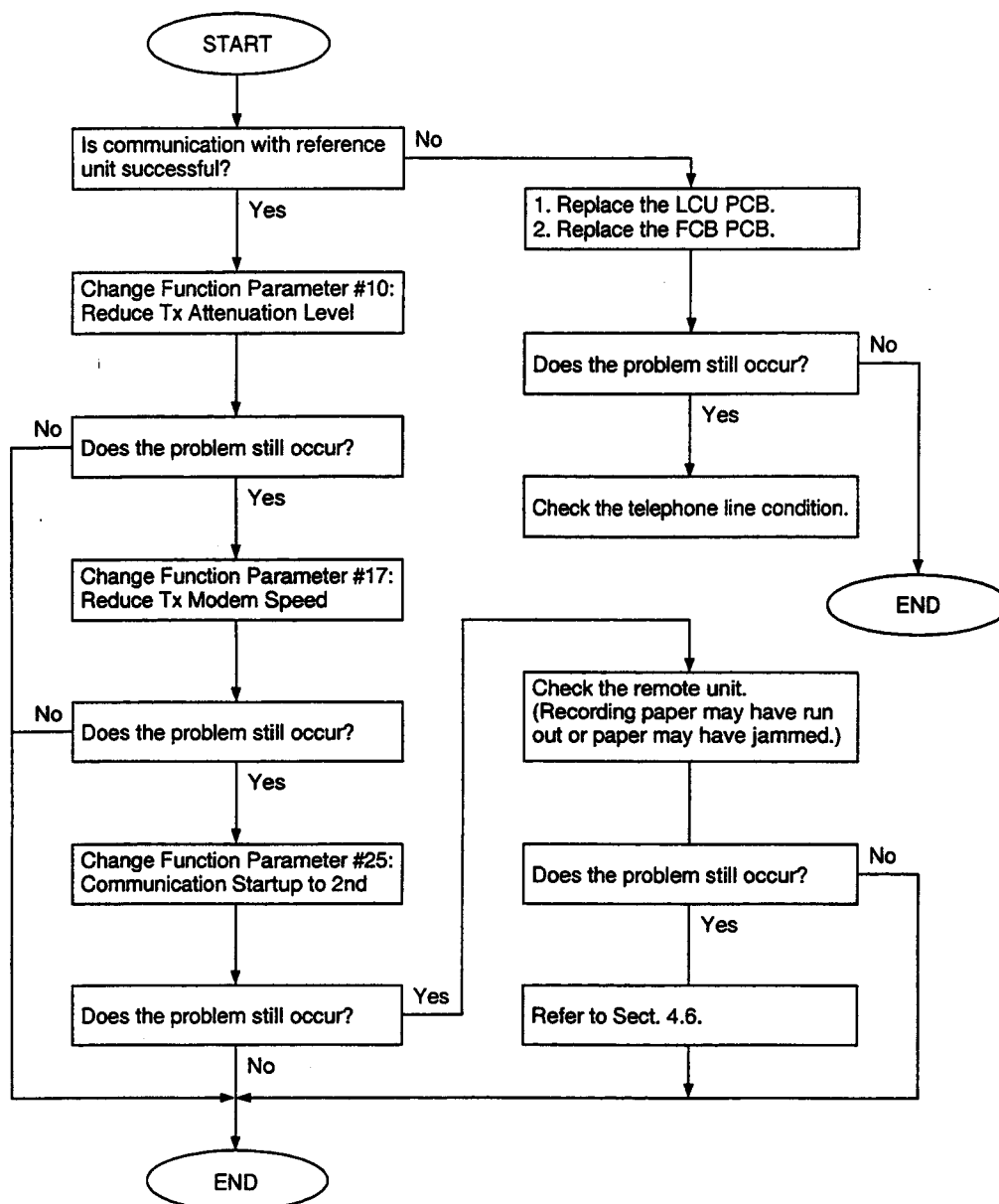
### 4.3.1 Information Codes: 400, 420



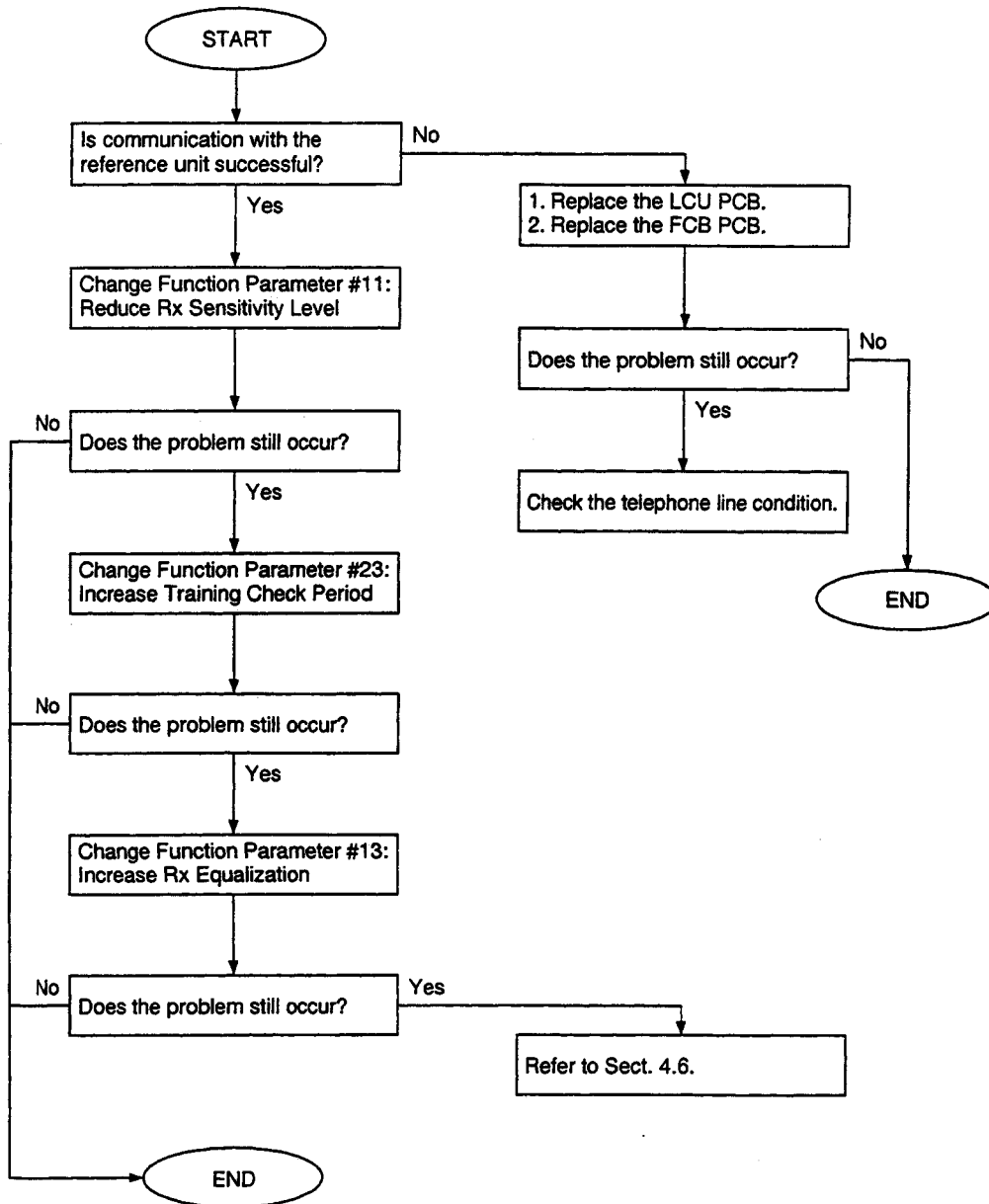
4.3.2 Information Codes: 402, 422



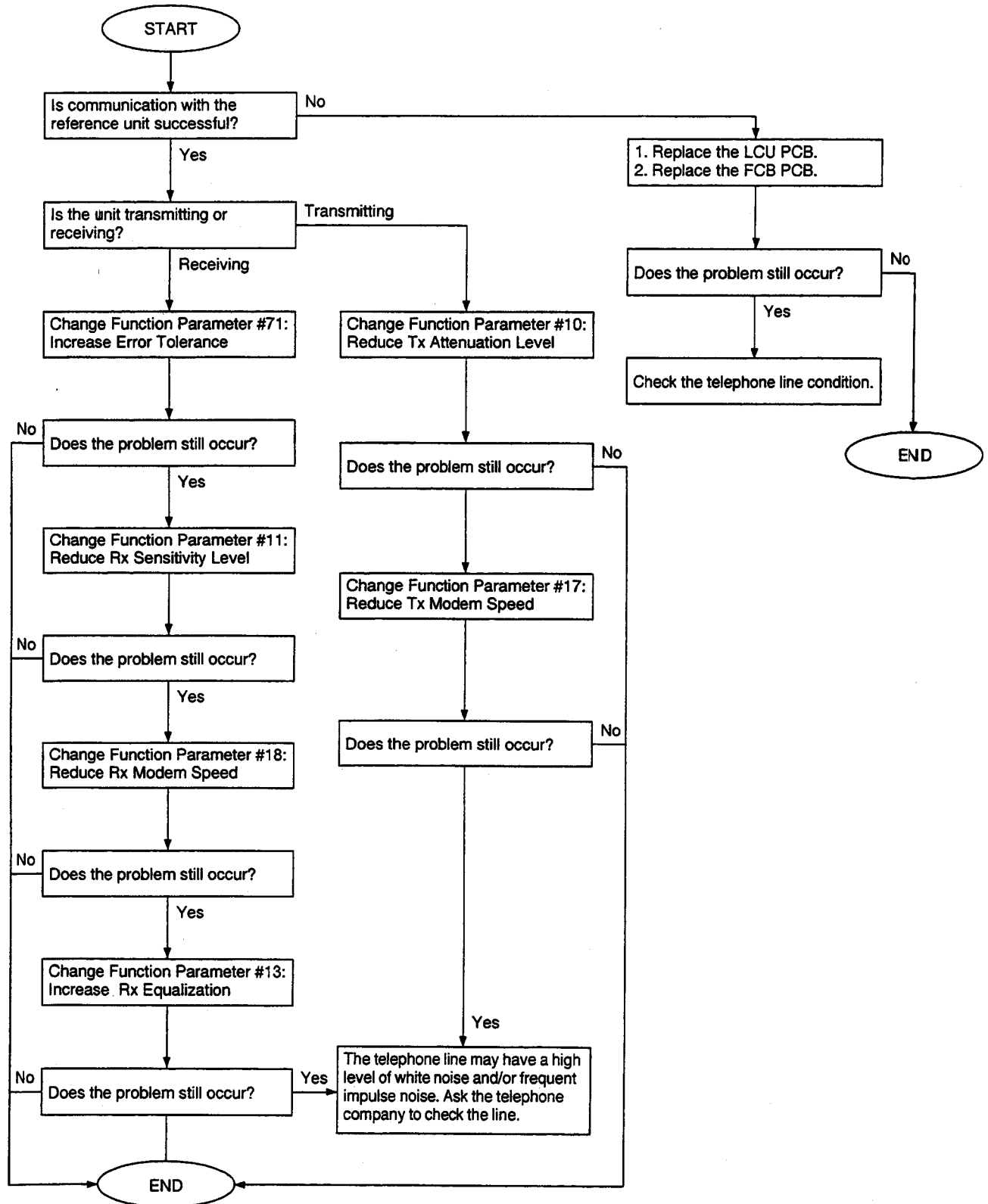
### 4.3.3 Information Codes: 404, 405, 407



4.3.4 Information Code: 416

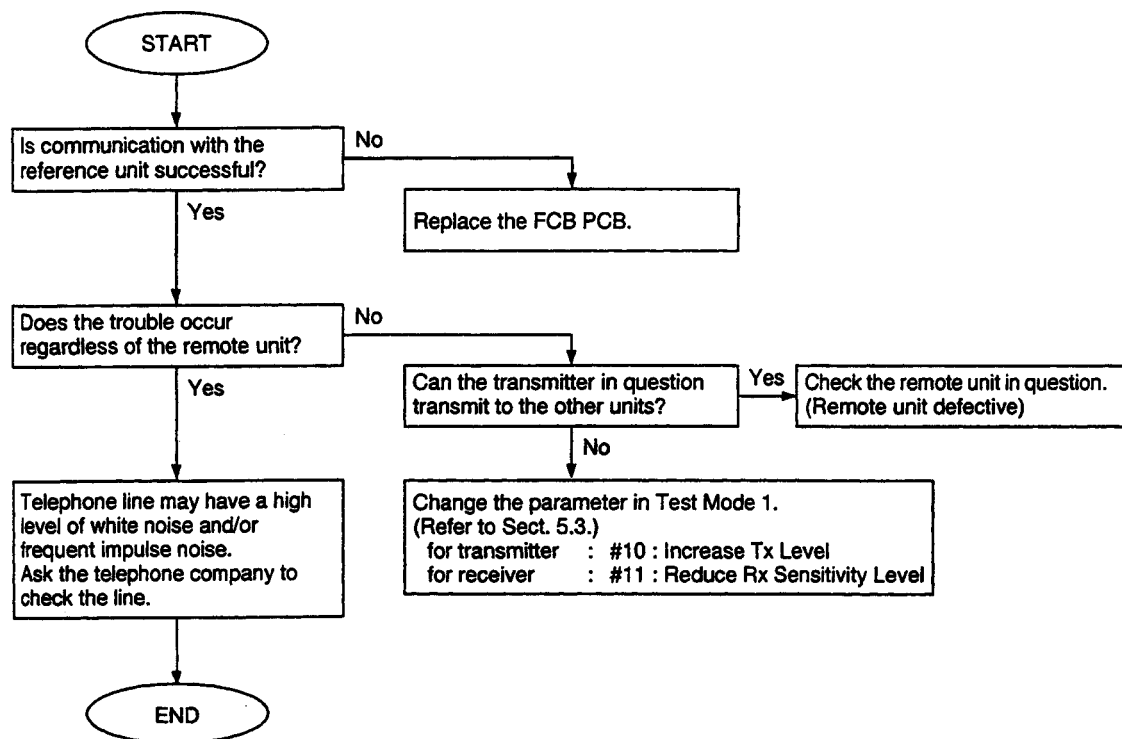


4.3.5 Information Codes: 408, 409, 417, 418, 490

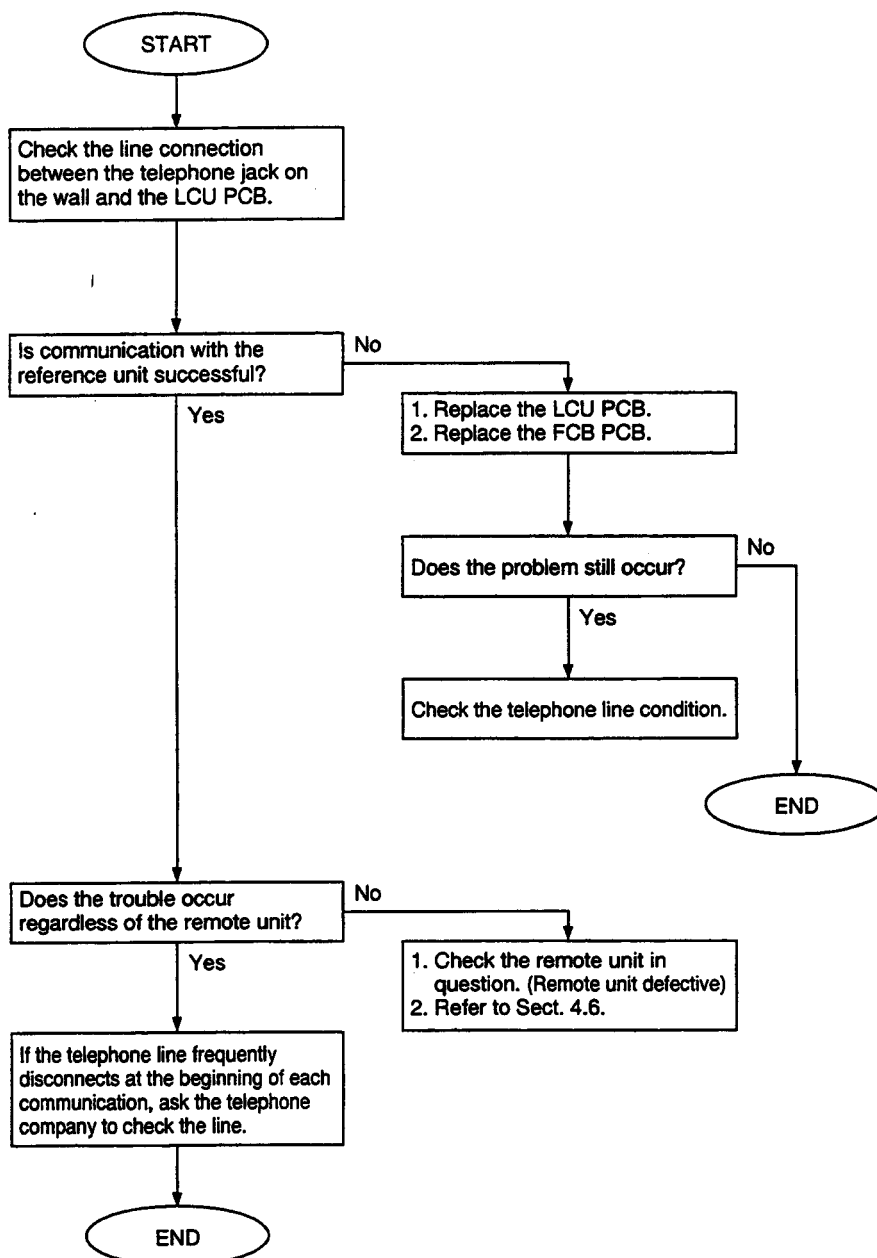




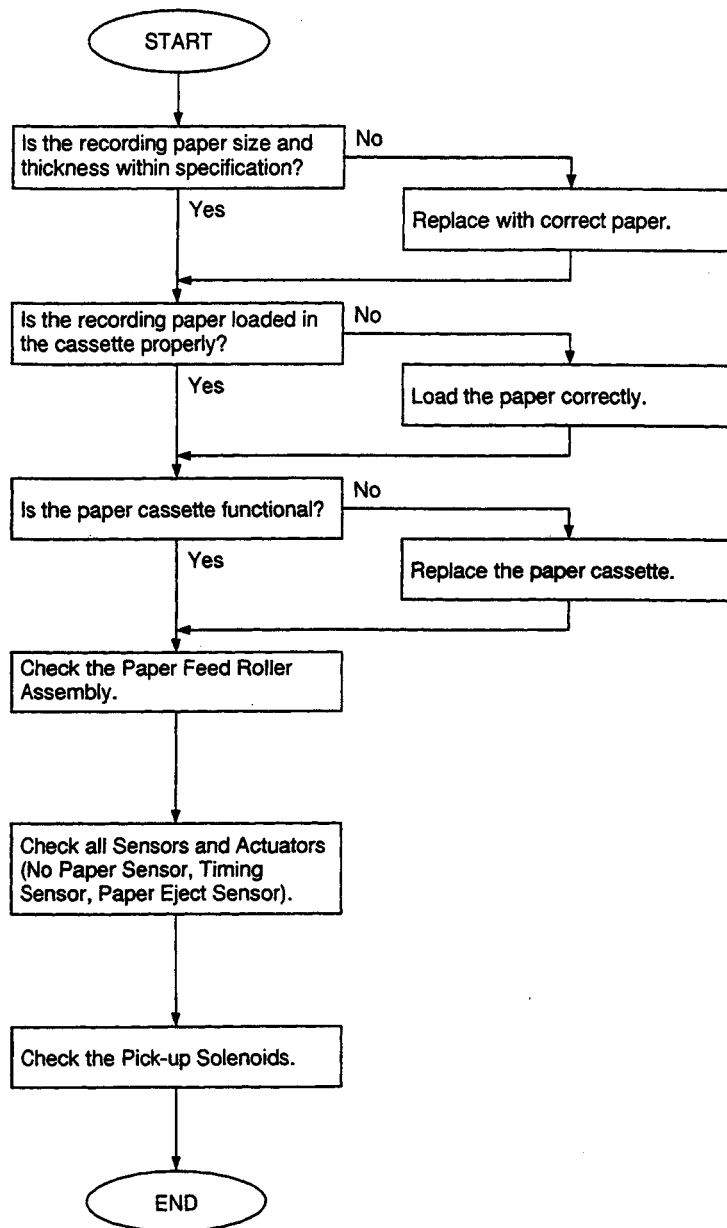
4.3.6 Information Code: 434



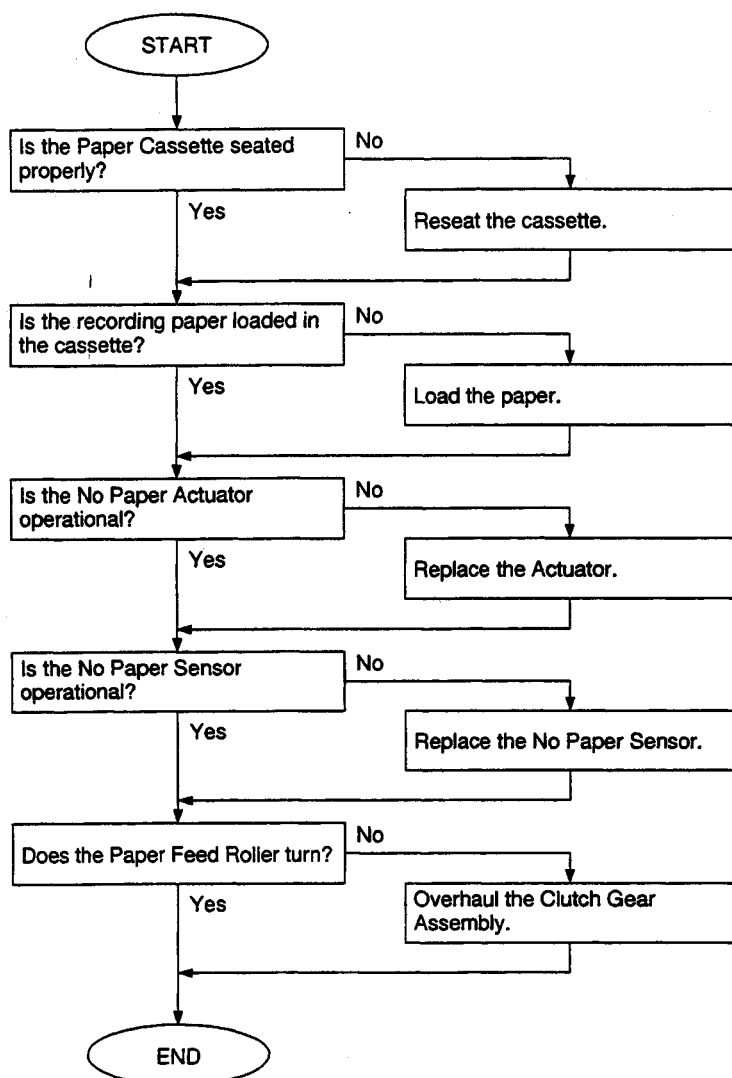
### 4.3.7 Information Codes: 459, 494, 495



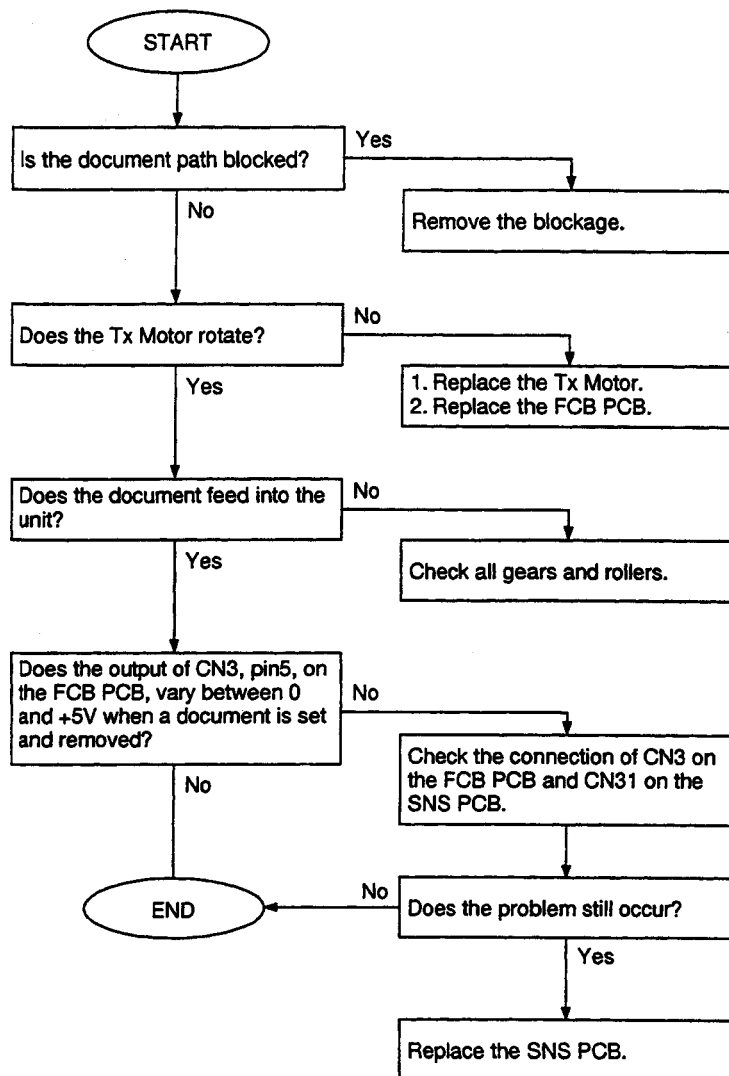
4.3.8 Information Codes: 001, 002, 003, 017 (Recording Paper Jam)



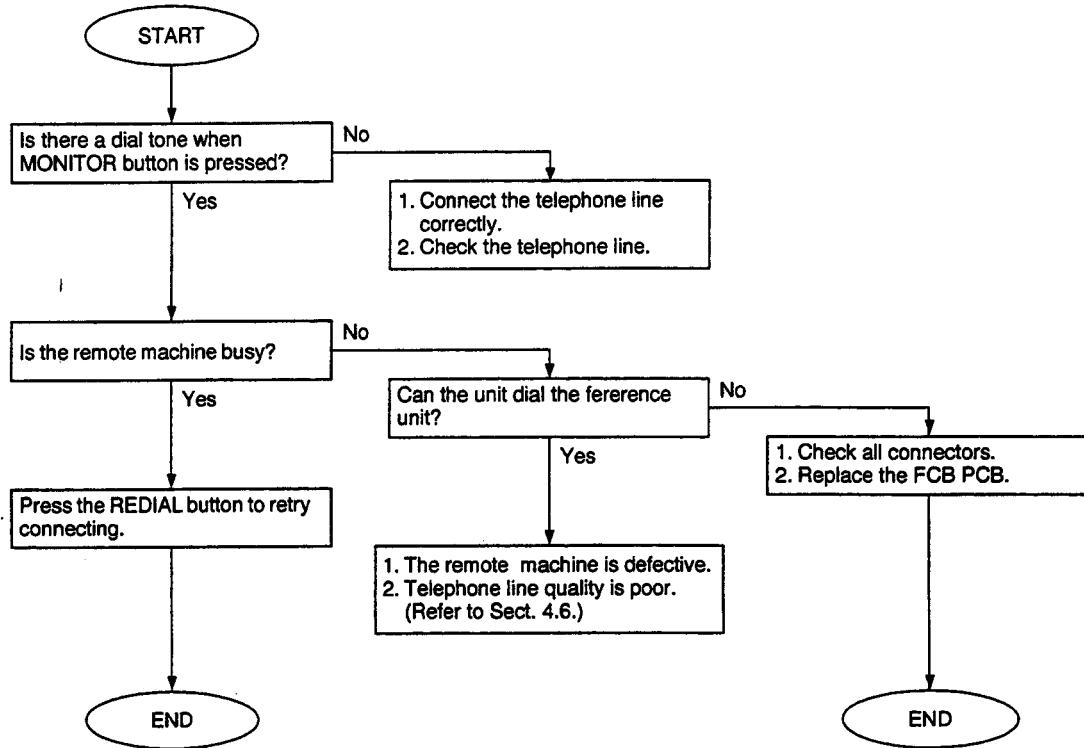
### 4.3.9 Information Code: 010 (No Recording Paper)



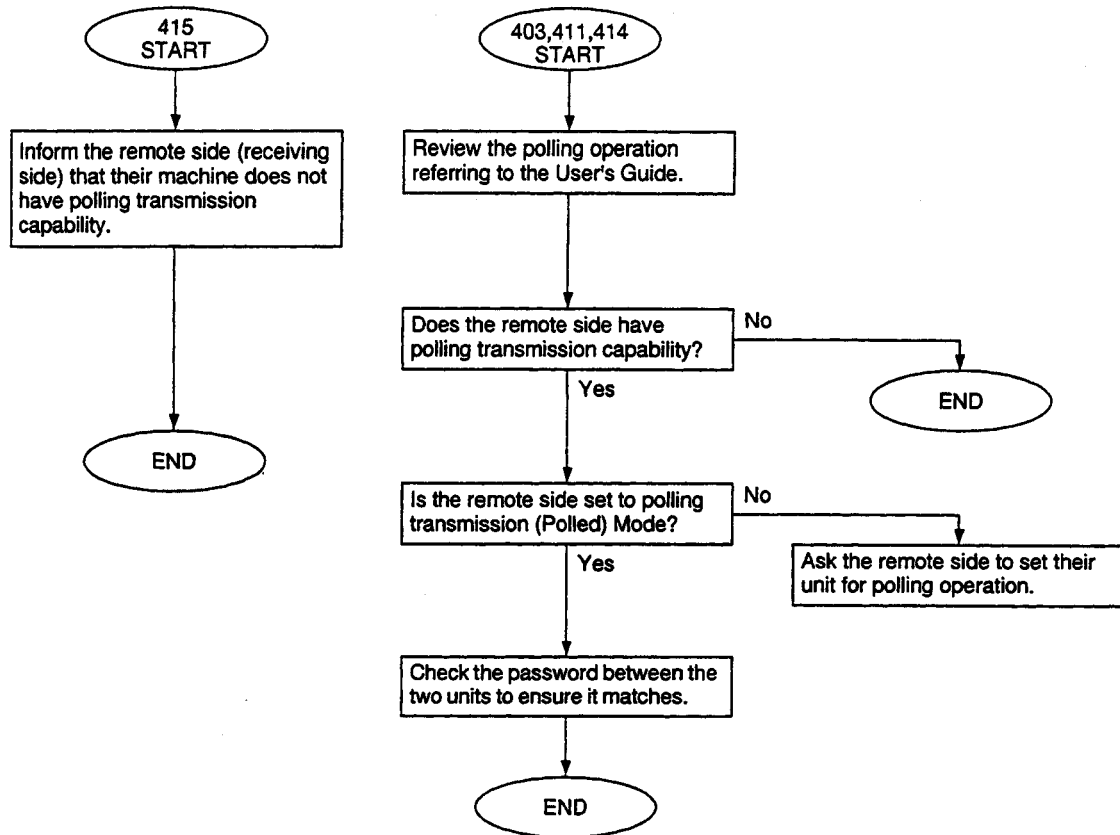
4.3.10 Information Codes: 030, 031 (Document Jam)



4.3.11 Information Code: 630 (Dialing Error)



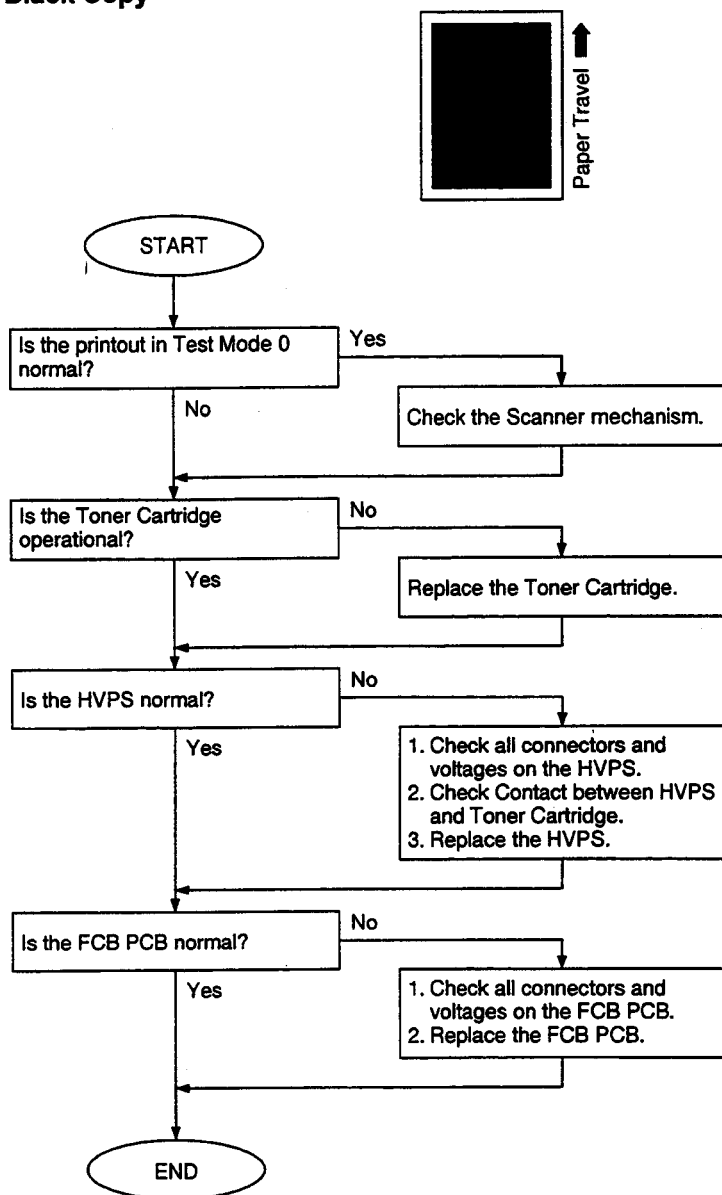
4.3.12 Information Codes: 403, 411, 414, 415 (Polling Operation Trouble)



Polling communication with 4-digit password is not a ITU-T / CCITT Standard feature. If the transmitter and receiver have different manufacturers, polling communication with password *may not* be possible.

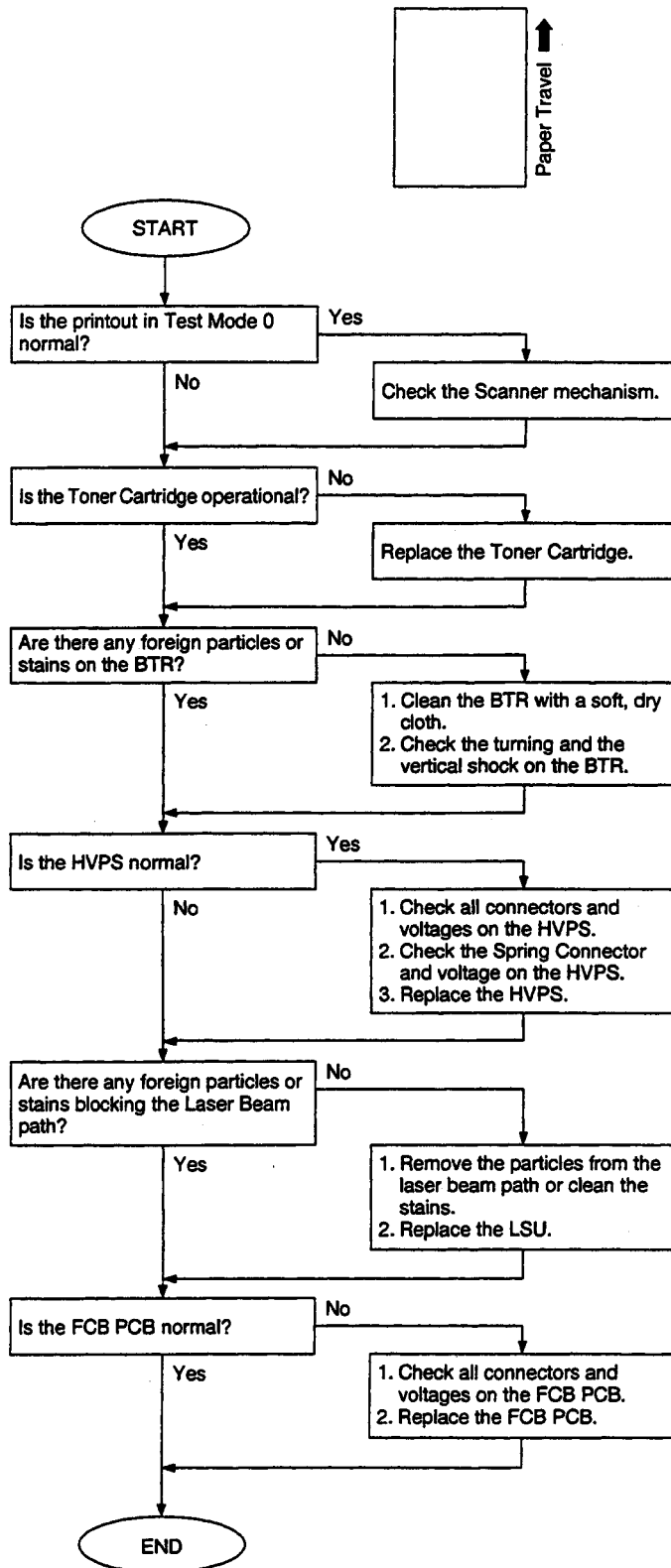
## 4.4 Printed Copy Quality Problems

### 4.4.1 Black Copy

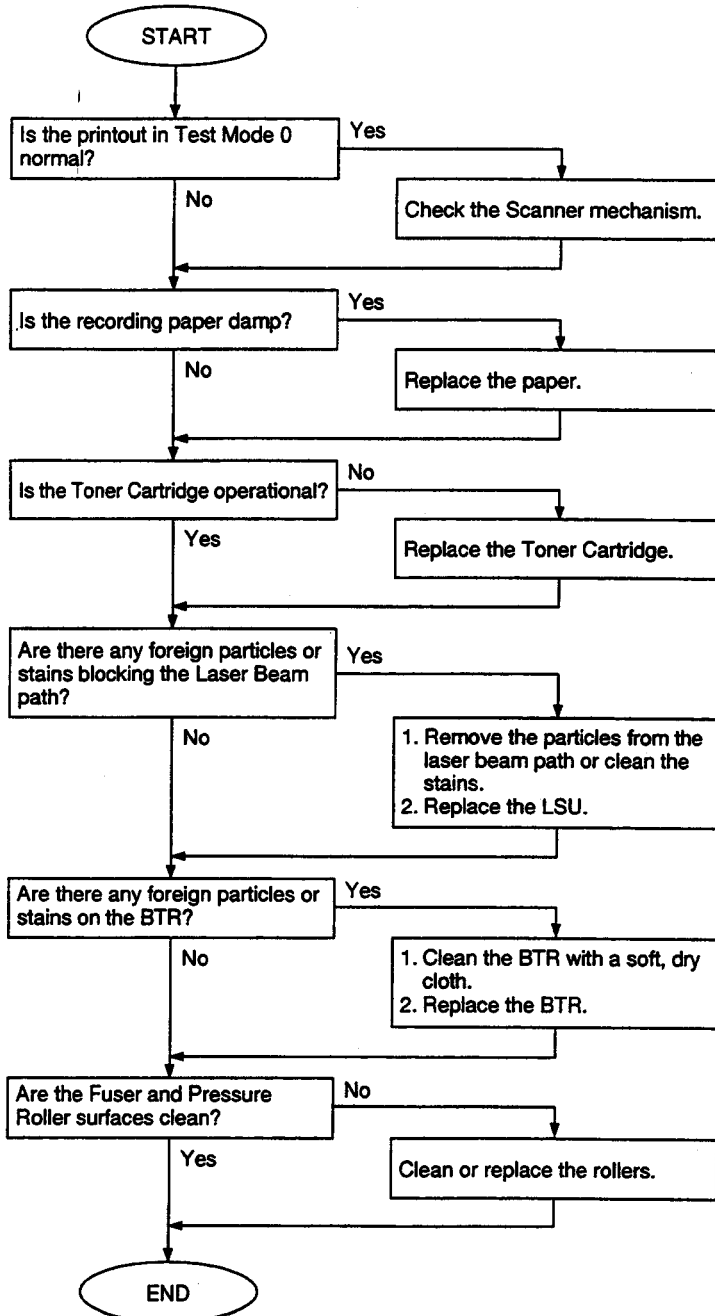
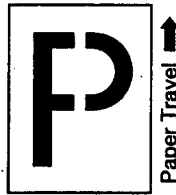




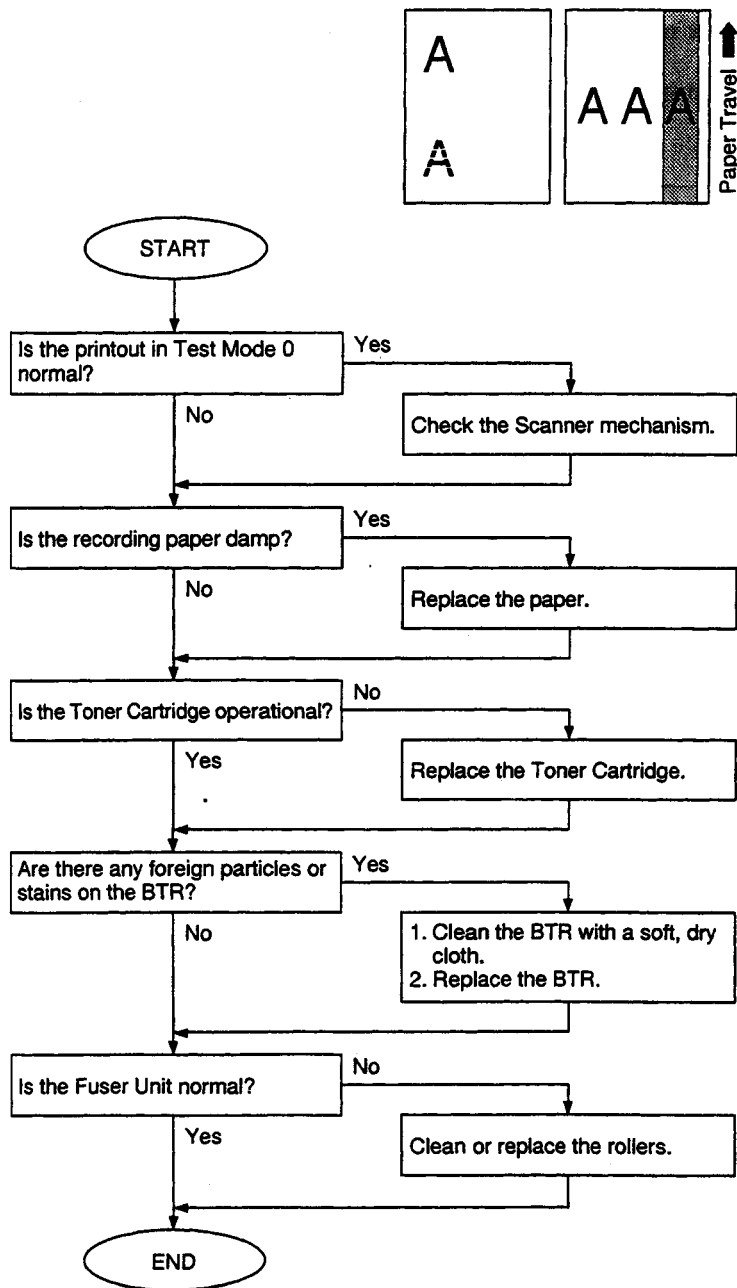
#### 4.4.2 Blank Copy



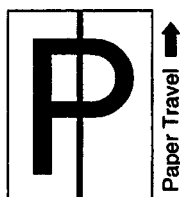
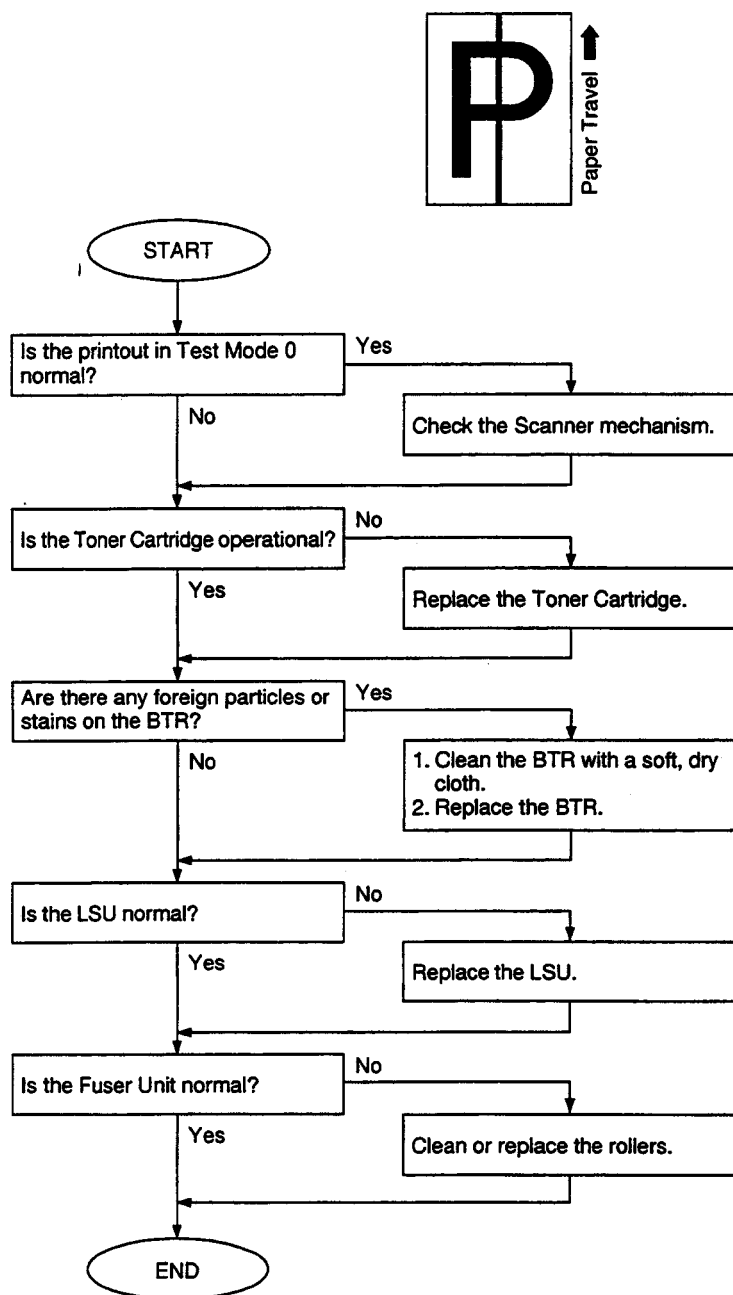
#### 4.4.3 Vertical White Lines



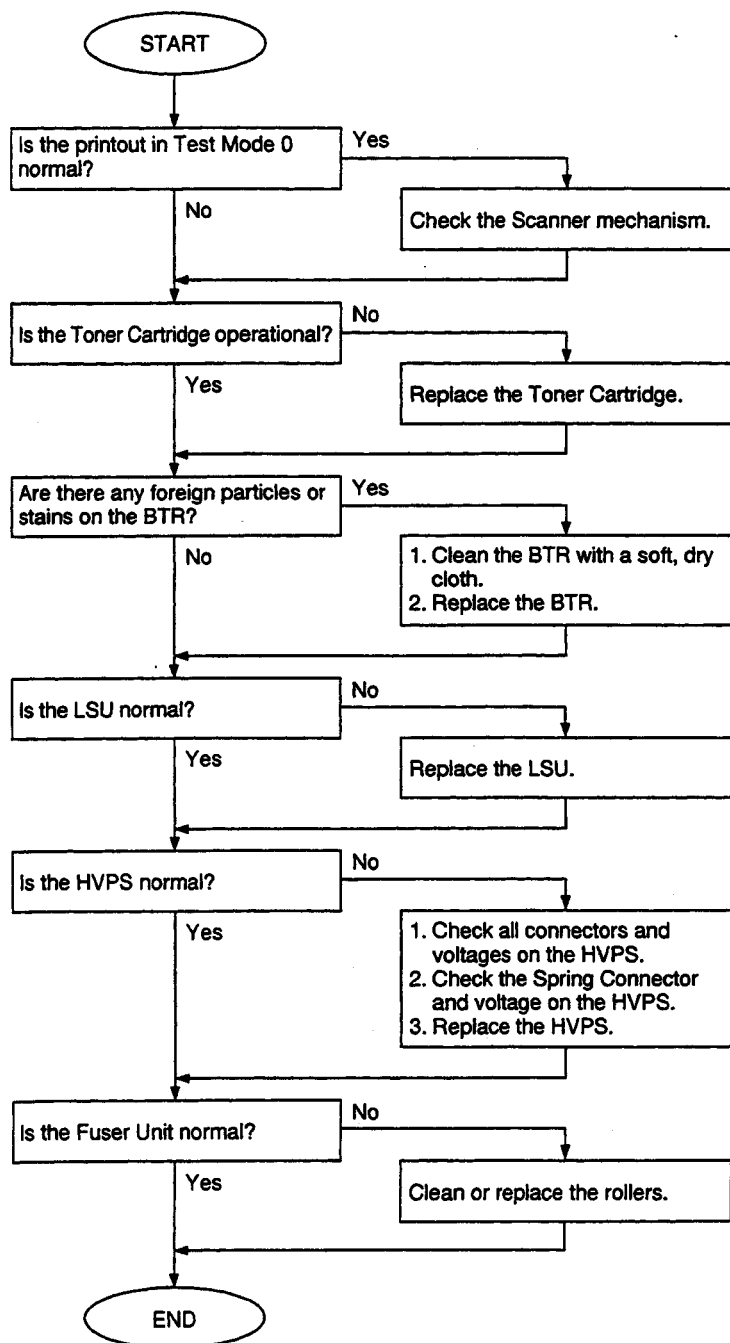
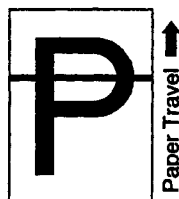
#### 4.4.4 Ghost Images



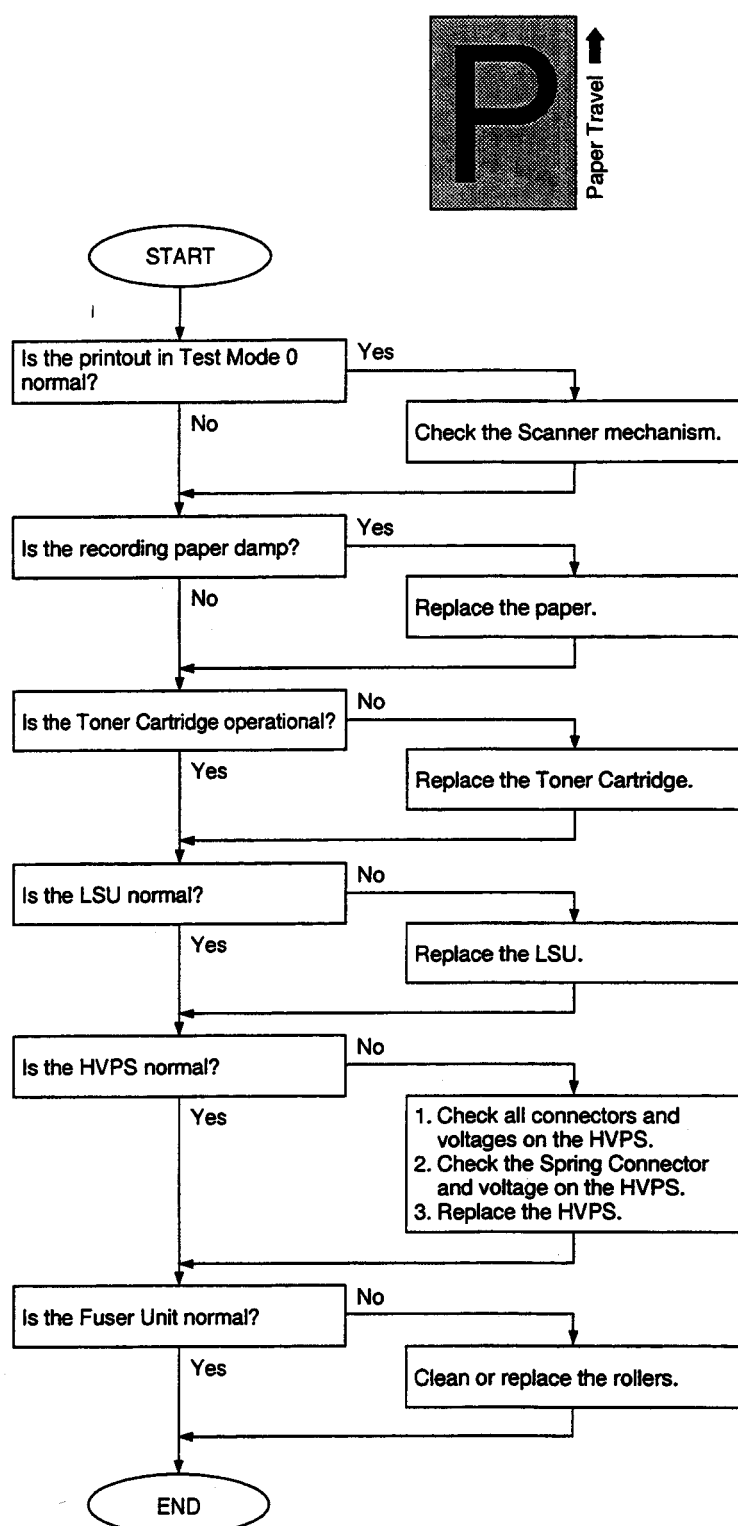
# 4.4.5 Vertical Dark Lines



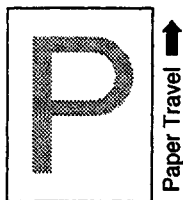
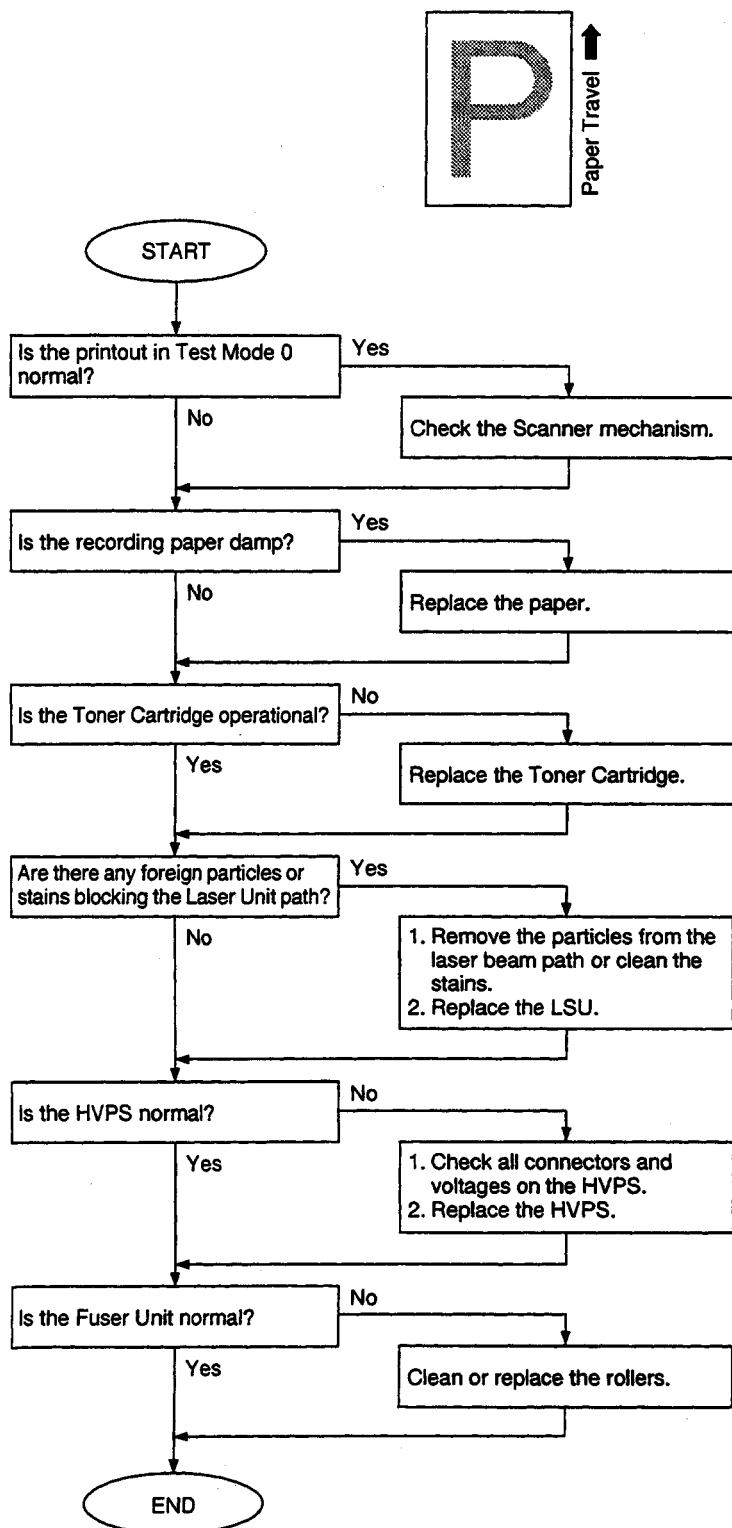
#### 4.4.6 Horizontal Dark Lines



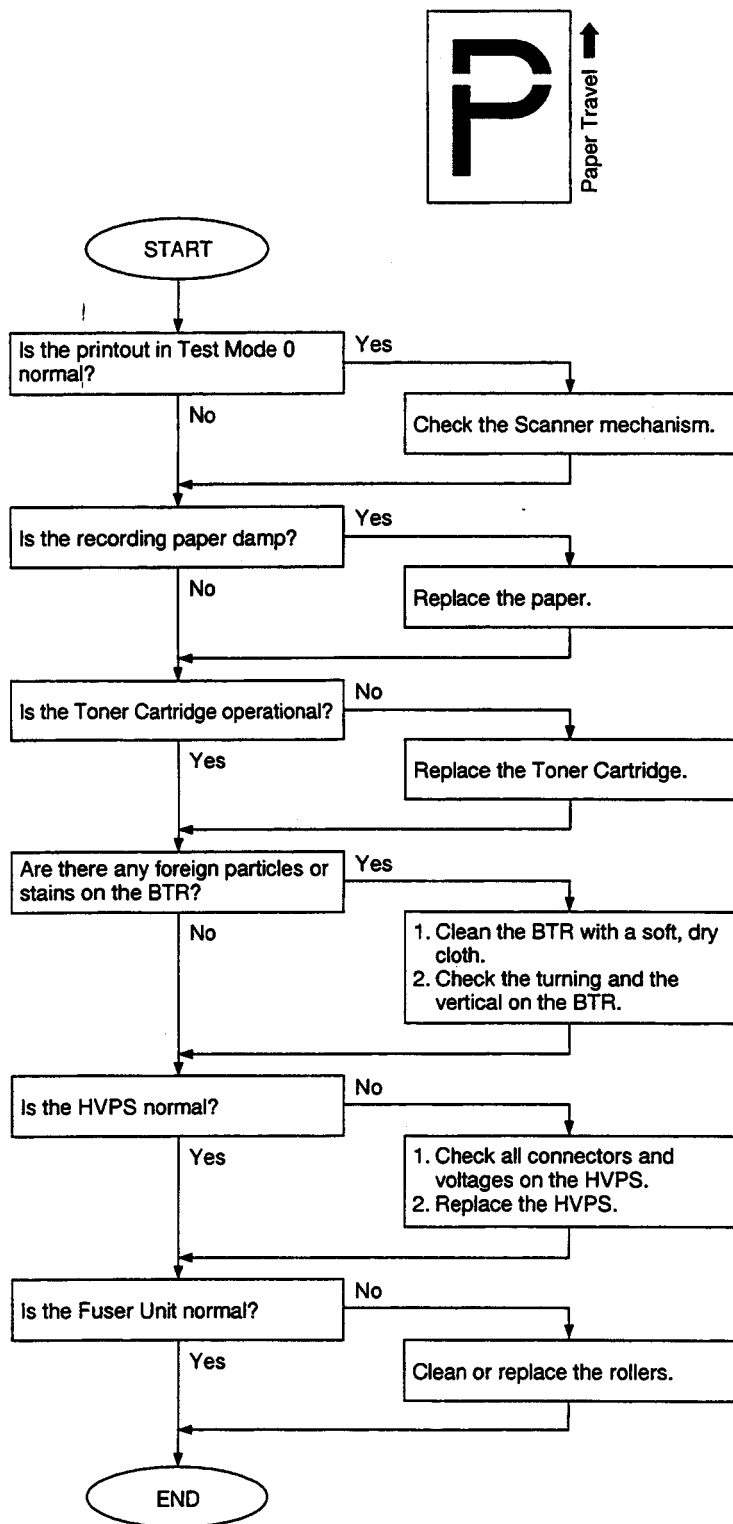
# 4.4.7 Dark Background



# 4.4.8 Light Print

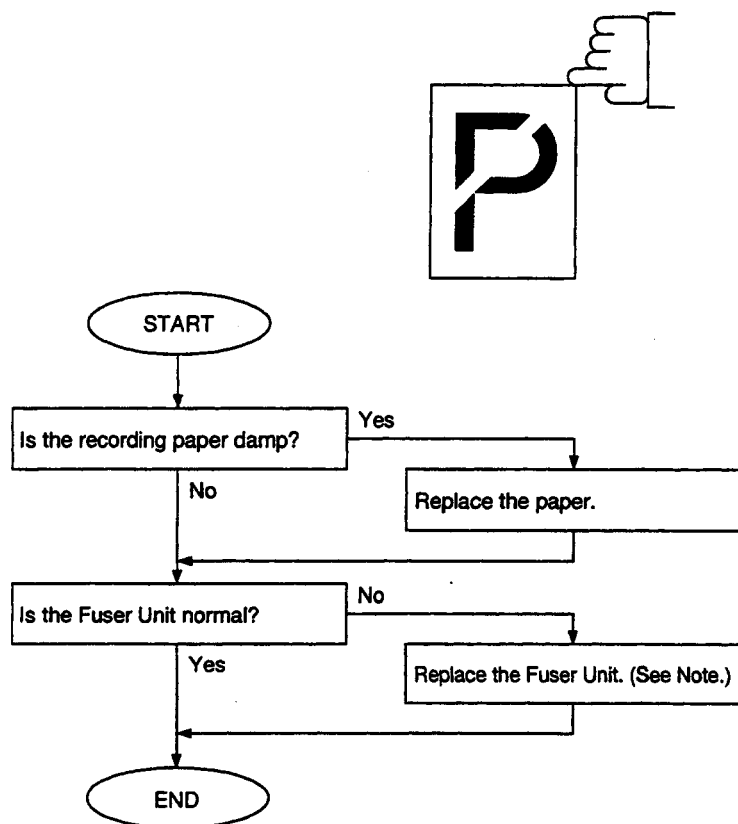


#### 4.4.9 Horizontal White Lines



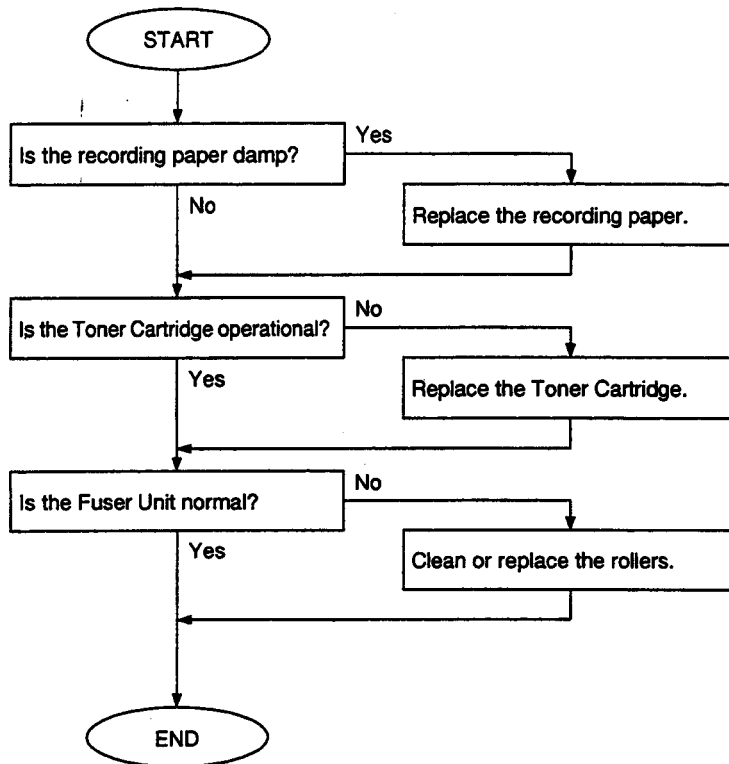
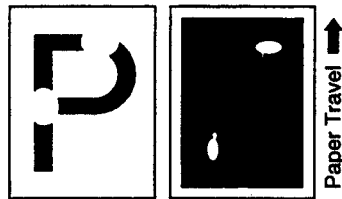


4.4.10 Improper Fusing (Printed image does not bond to the paper)

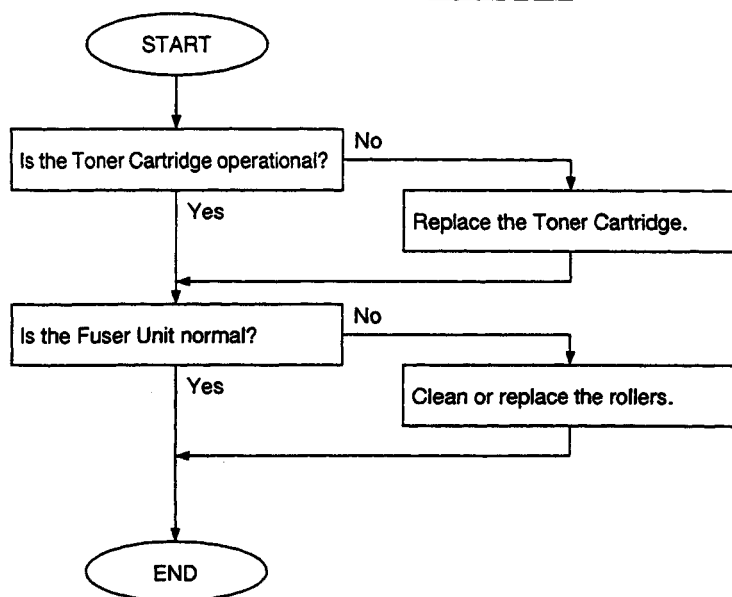
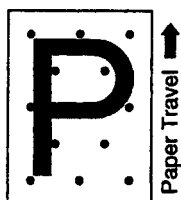


**Note:** Replace the entire unit when the Thermostat or the Thermistor becomes open-circuit.

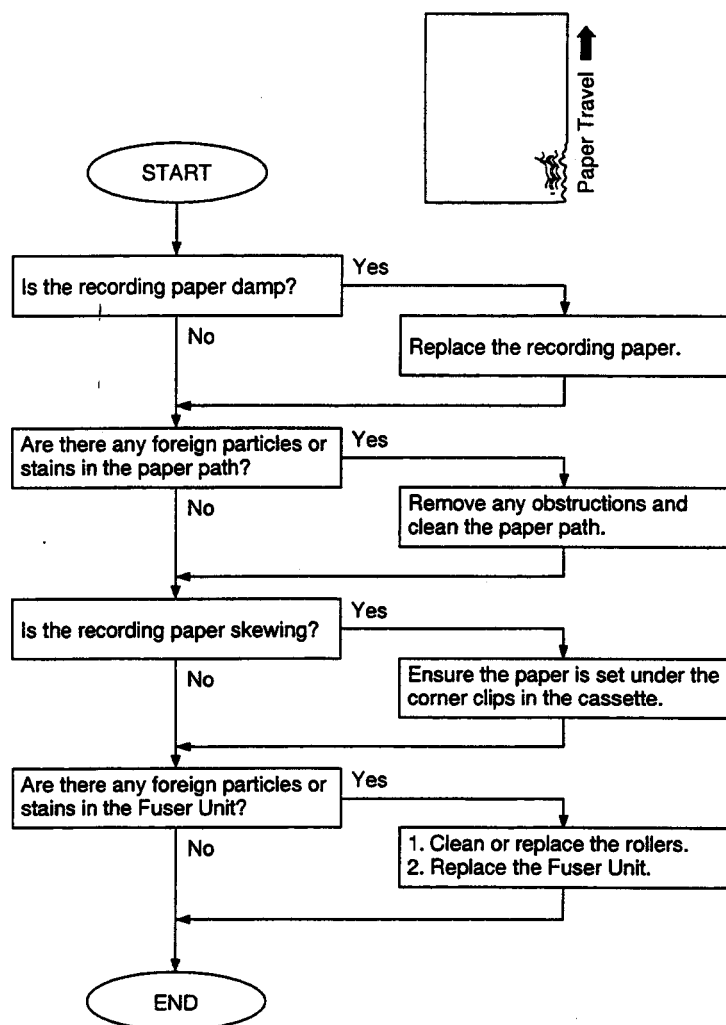
#### 4.4.11 Voids in Solid Areas



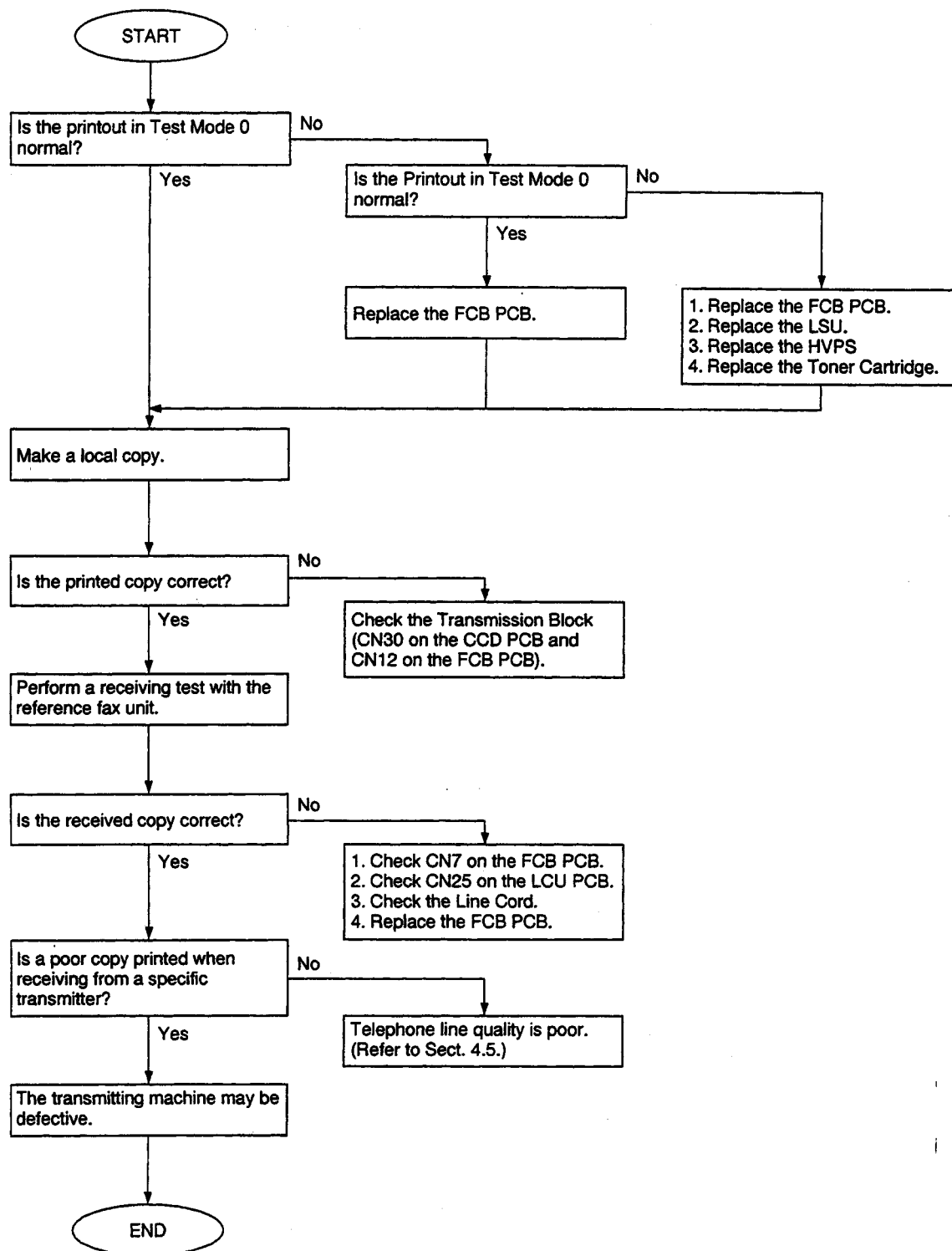
4.4.12 Black Dots



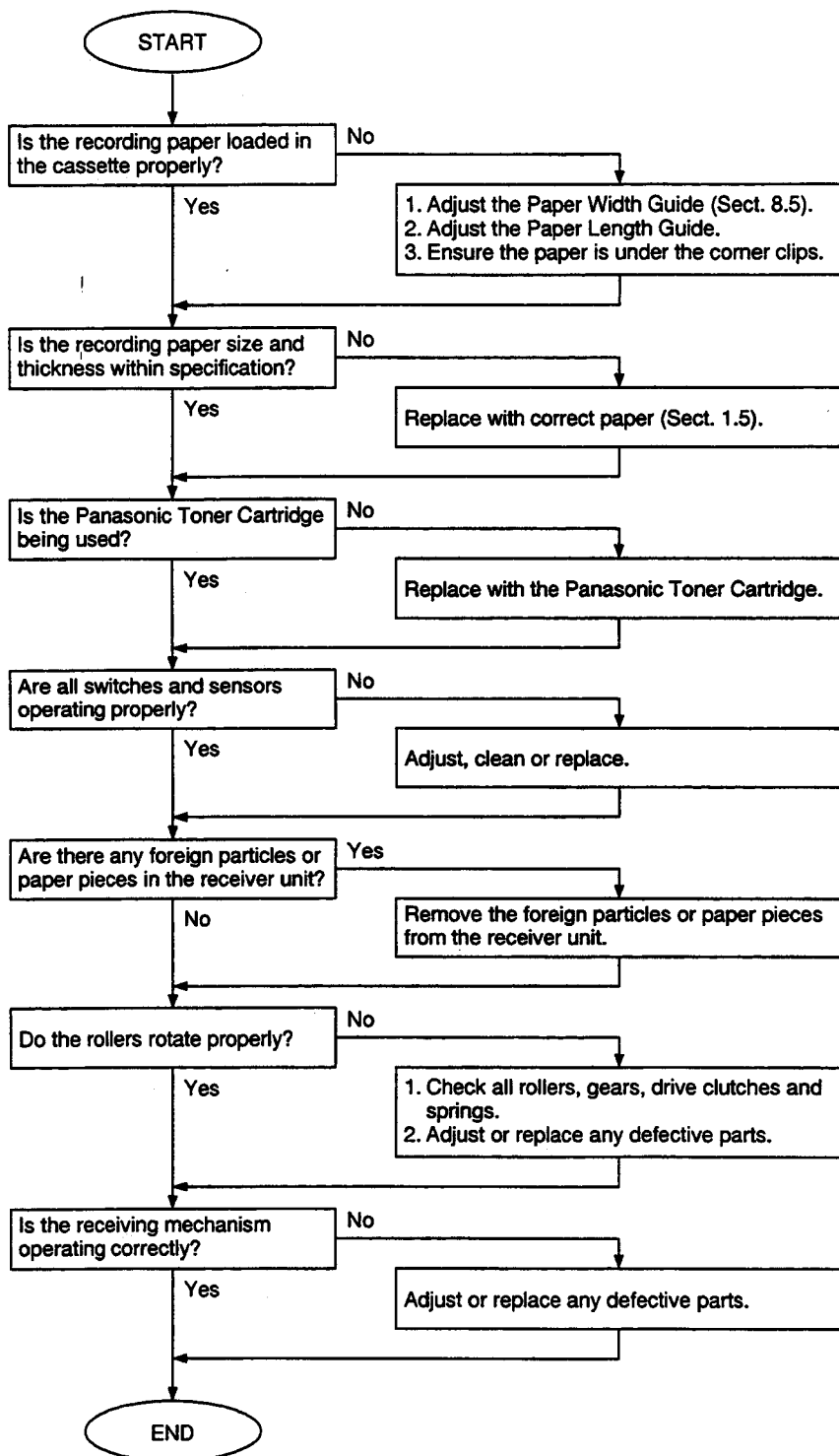
# 4.4.13 Recording Paper Creases



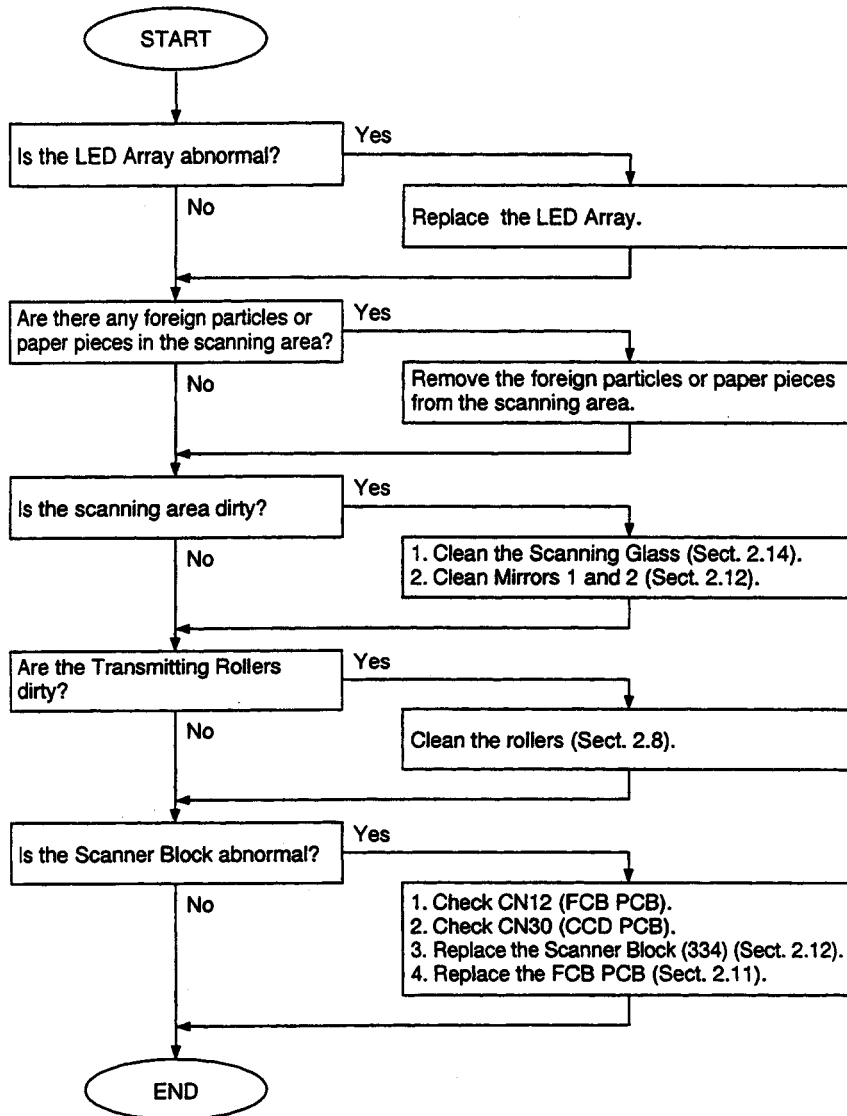
#### 4.4.14 Poor Printed Copy Quality



#### 4.4.15 Abnormal Printing

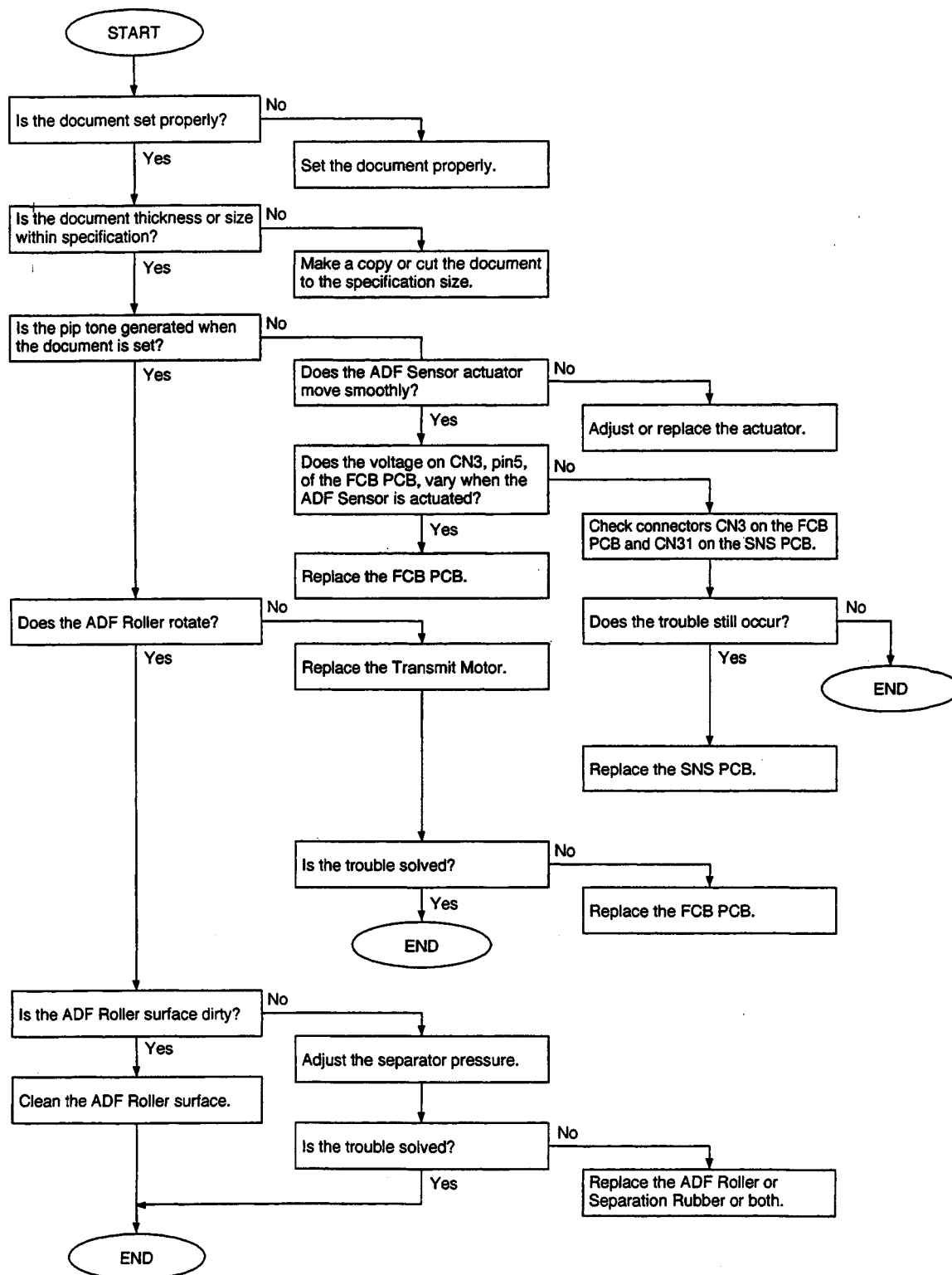


#### 4.4.16 Scanned Copy Quality Problems



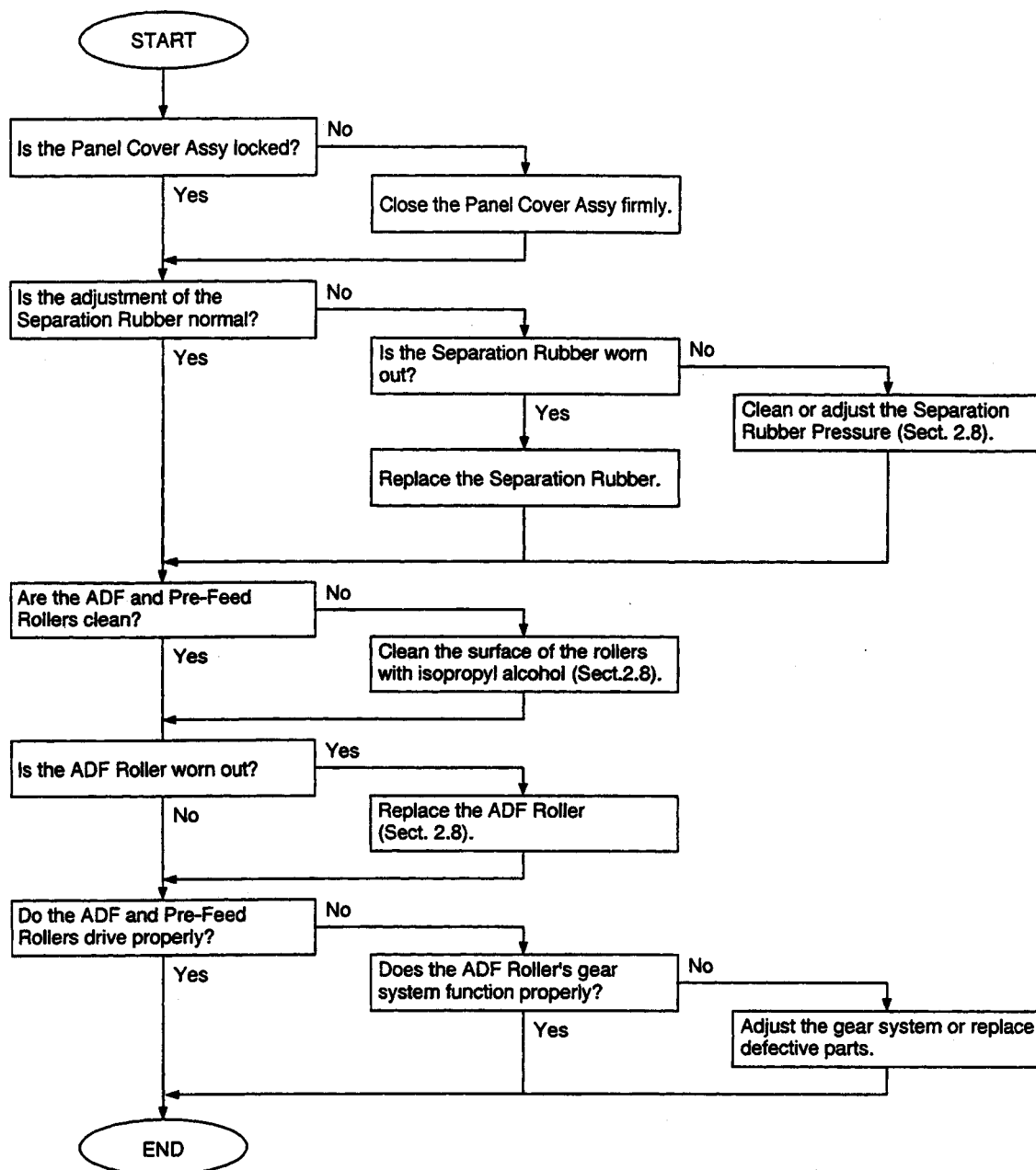
## 4.5 Document Feeder (ADF)

### 4.5.1 No Document Feed

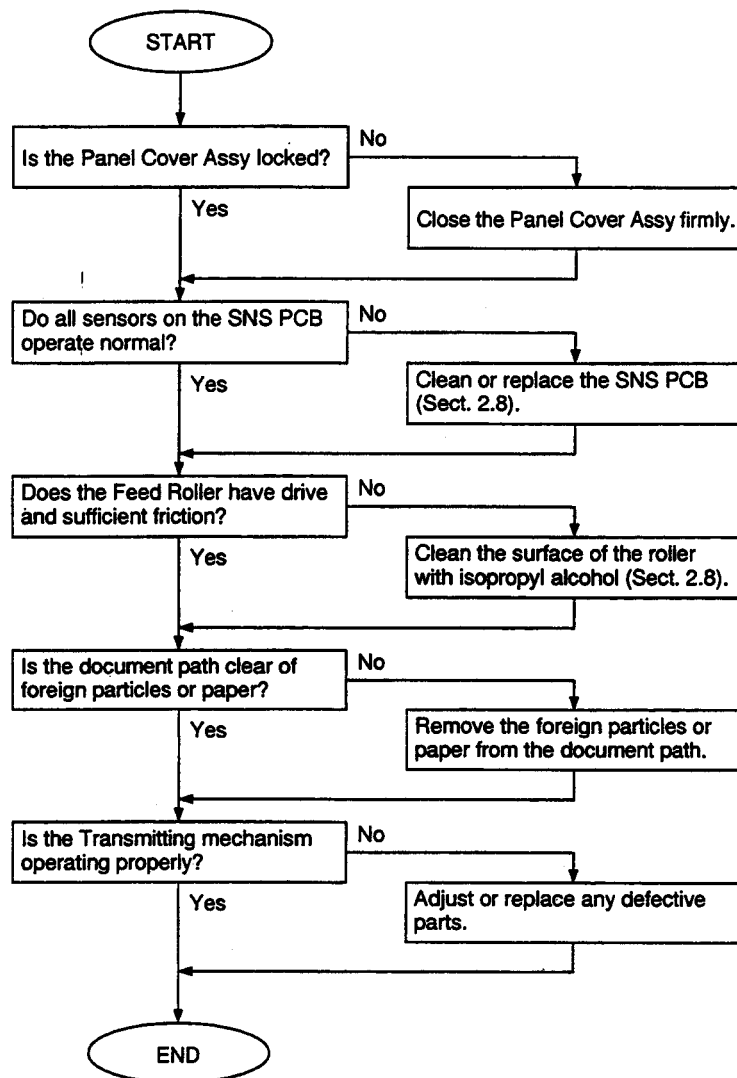




## 4.5.2 Document does not feed or Multiple feeds



### 4.5.3 Document Jam (030) or Skewing

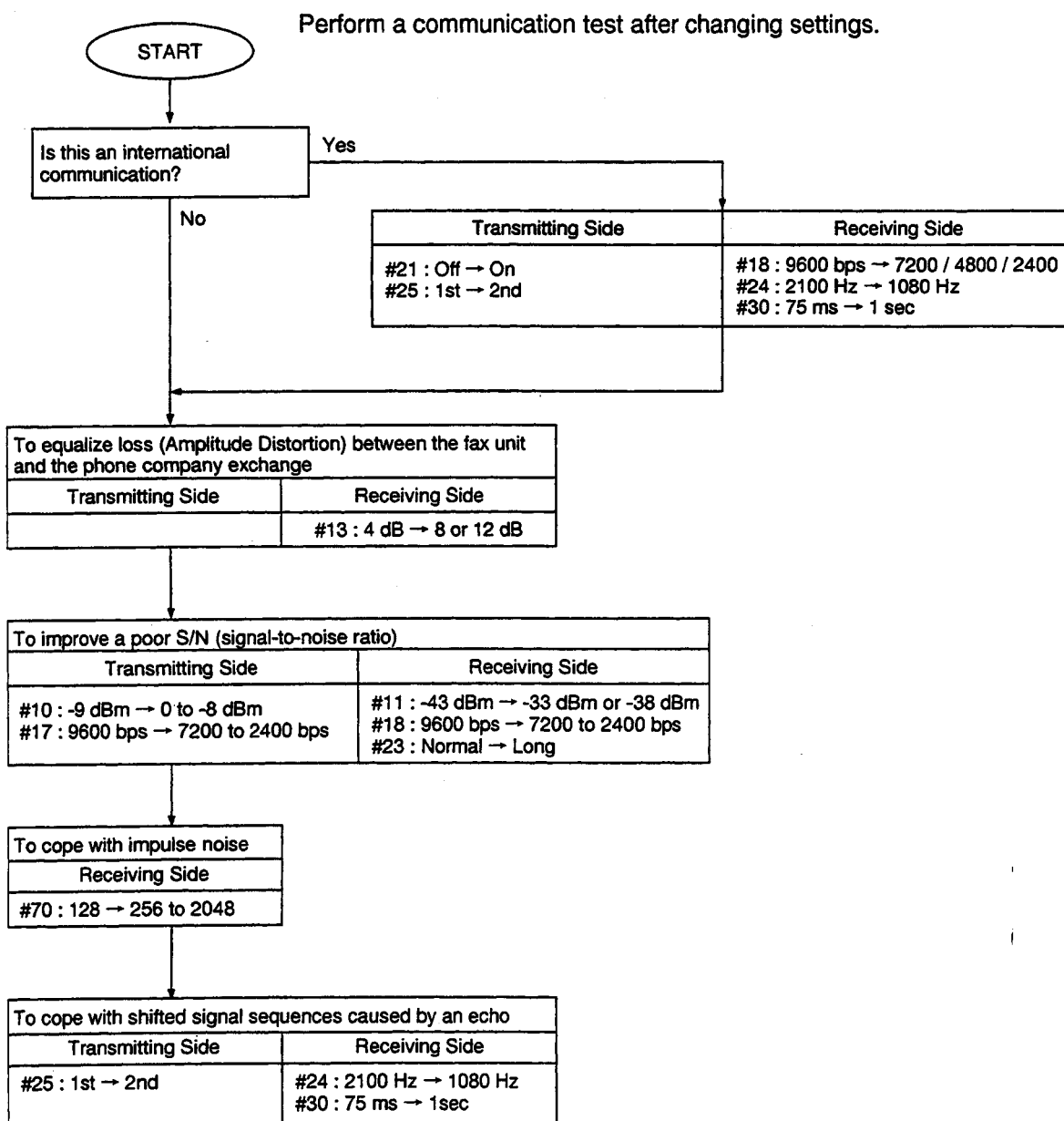


## 4.6 Communications

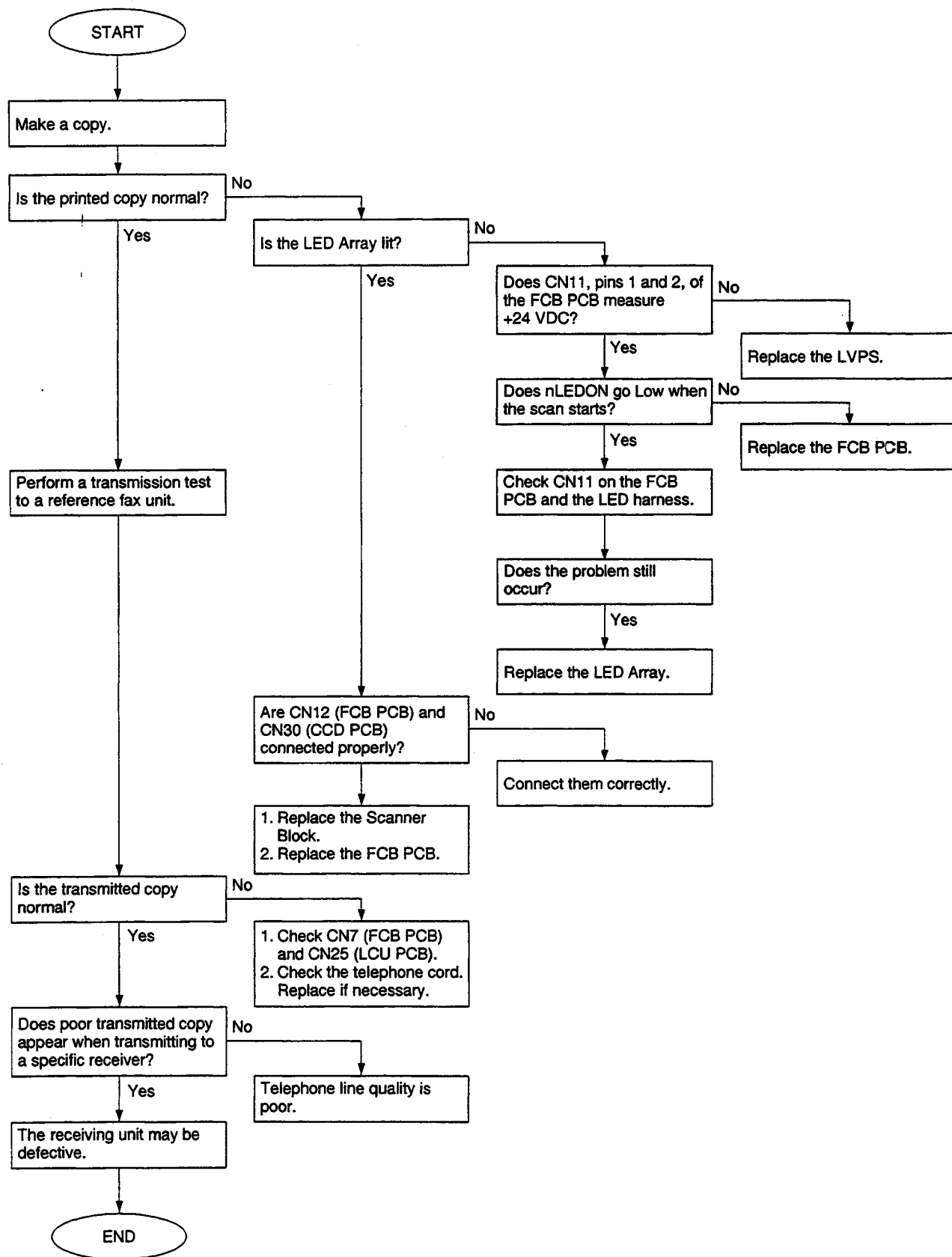
This section explains general troubleshooting procedures for the 400 series of Information Codes. These errors are primarily caused by poor telephone line quality (loss, noise, echo, etc.). This unit is furnished with Test Mode 1 to assist in troubleshooting line quality problems.

It is suggested that both the transmitting unit and receiving unit be adjusted. This section gives relevant parameters in Test Mode 1 for both the transmitting and receiving sides. If no improvement is realized after the parameters are adjusted, it is recommended that the parameters be returned to the default settings.

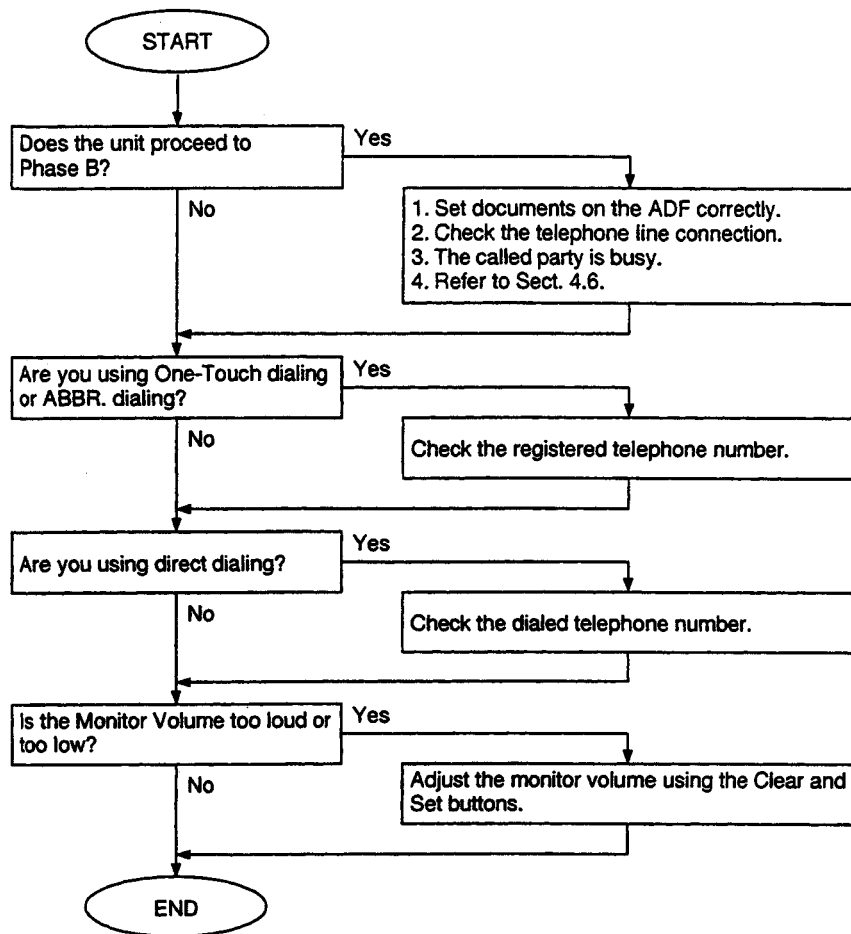
### 4.6.1 Communication Trouble



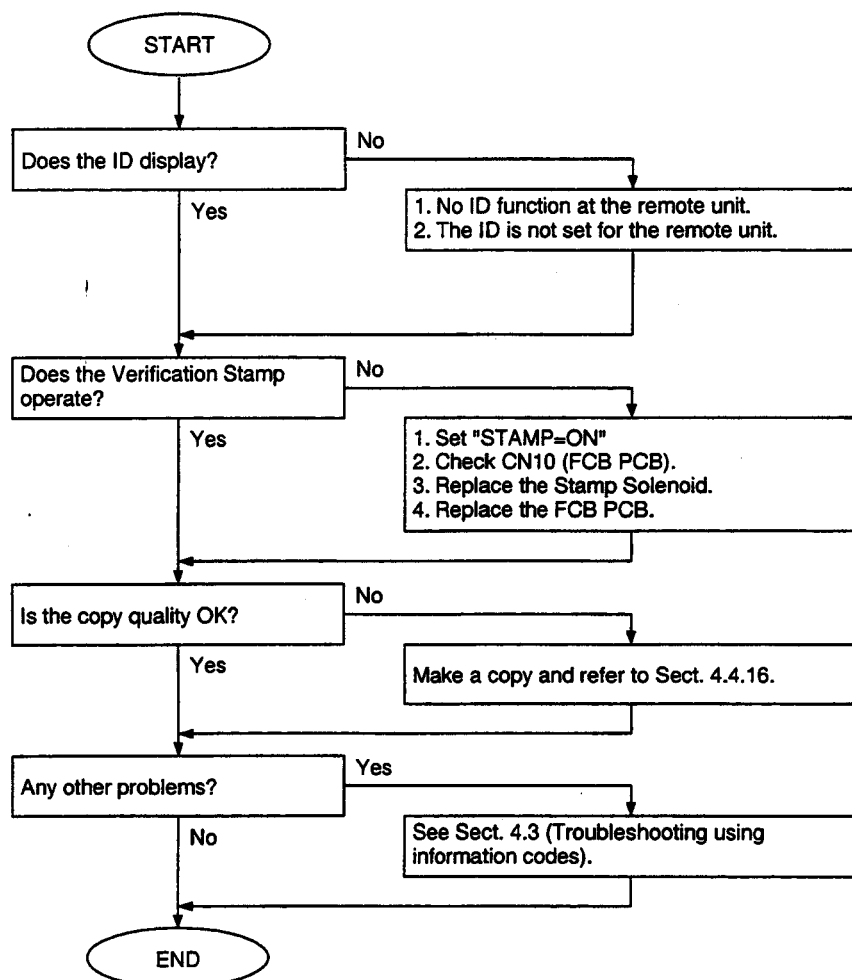
## 4.6.2 Poor Transmitted Copy Quality



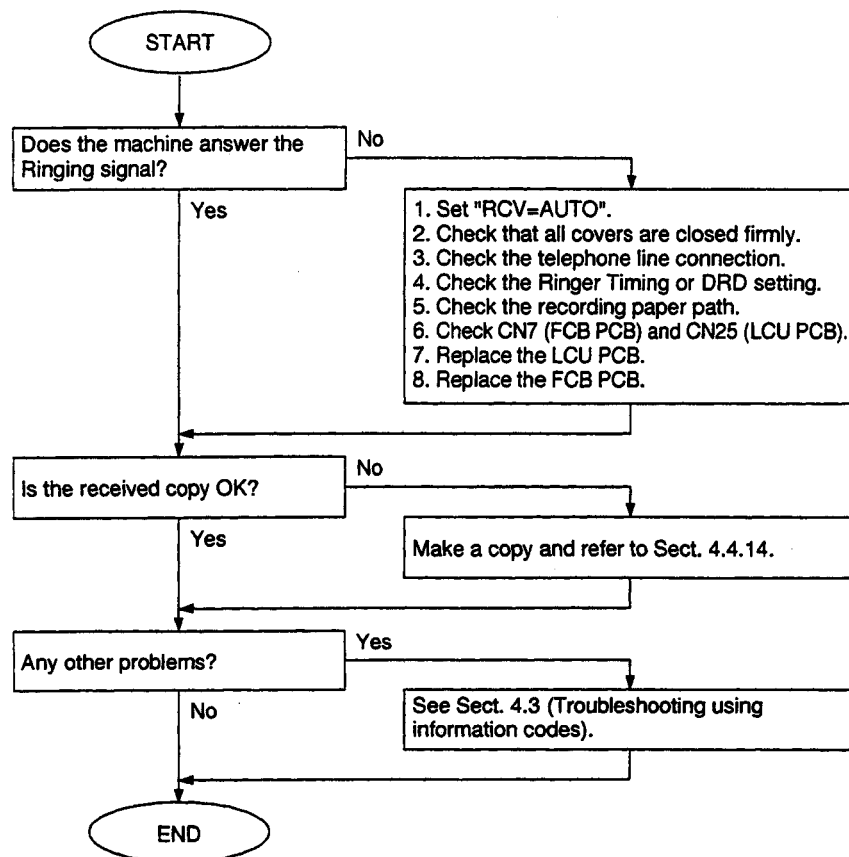
### 4.6.3 Dialing Problems



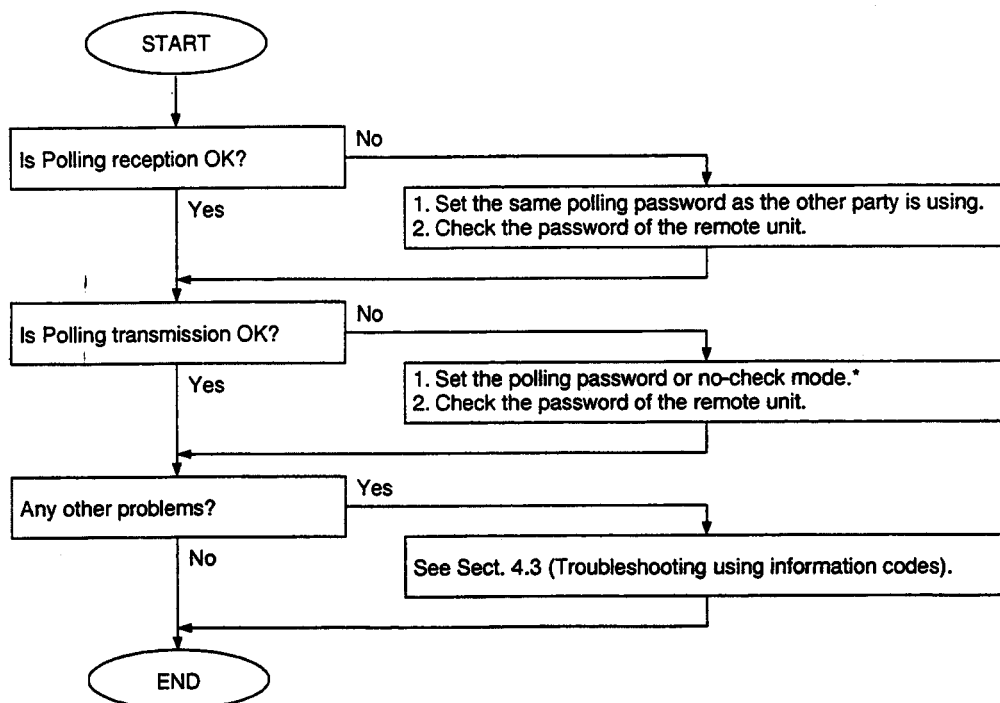
# 4.6.4 Transmission Problems



#### 4.6.5 Reception Problems



## 4.6.6 Polling Problems



**Note:** No-check Mode means that the password is not set.



## 4.7 Information Code Table

| Information Codes |                       |             |   |   |
|-------------------|-----------------------|-------------|---|---|
| Code              | Mode                  | Phase       | Description of Problem  | Cause   |
| 001               | RCV<br>COPY           | C<br>D      | Leading edge of the recording paper fails to reach the Timing Sensor.   | Recording paper jam<br>Timing Sensor abnormal   |
| 002               | RCV<br>COPY           | C<br>D      | 1. Leading edge of the recording paper fails to reach the Eject Sensor.<br>2. Recording paper has not completely passed the Eject Sensor. | Recording paper jam<br>Eject Sensor abnormal  |
| 010               | RCV<br>COPY           | B<br>C      | No recording paper.   | No recording paper or paper is not set properly<br>No Paper Sensor is defective.                              |
| 011               | STANDBY               |             | Paper Cassette is not installed properly.   |   |
| 012               | RCV                   | C<br>D      | The length of the received document is over 380 mm. (Used in France only)   |   |
| 017               | RX COPY               | —           | The recording paper size setting does not match. (UF-550 only)  |   |
| 021               | STANDBY<br>RX<br>COPY | B<br>C<br>D | Fuser unit or Fan abnormal  | Defective FCB PCB<br>Defective Fuser Unit, LVPS or Fan  |
| 030               | XMT                   | B           | Read Point Sensor does not go ON within 10 seconds after the document starts feeding.   | Document is not set properly<br>Defective Read Point Sensor   |
| 031               | XMT<br>COPY           | C           | Transmitting document was longer than 2,000 mm (or 78.7 in).  | The document may jam<br>Defective Read Point Sensor   |
| 041               | STANDBY<br>RX<br>COPY | B<br>C<br>D | Out of toner  | No toner<br>Defective Toner Sensor  |
| 043               | STANDBY<br>RX<br>COPY | B<br>C<br>D | Low Toner   | Toner is getting low<br>Defective Toner Sensor  |
| 045               | STANDBY               | —           | No Toner Cartridge  | Toner cartridge has not been installed<br>Defective Toner Sensor (Cartridge Sensor)                           |
| 054               | STANDBY<br>RX<br>COPY | —           | Laser motor abnormal  | Defective Laser Unit  |
| 055               | STANDBY<br>RX<br>COPY | —           | No response of LBP CPU on FCB   | Defective FCB PCB   |
| 058               | —                     | A           | Interface error occurs with the 500-sheet optional cassette feeder.   | Defective CST3 PCB.   |
| 060               | —                     | A           | Printer Cover open  | Cover is not firmly closed<br>Connectors are not firmly connected   |
| 061               | —                     | A           | ADF Door open   | Cover is not firmly closed<br>Connectors are not firmly connected.  |
| 063               | —                     | A           | Jam Access Cover open   | Cover on the optional 2nd cassette is not closed.   |
| 064               | —                     | A           | Jam Access Cover open   | Cover on the optional 3rd cassette is not closed. [UF-770: and UF-880 only]                                   |
| 211               | XMT                   | C           | Transmission of the data from modem was stopped   | Modem is defective (FCB PCB)<br>[UF-880: MDM PCB]   |
| 212               | XMT<br>RCV            | A-E         | Interface error occurred between the CPU and modem  | Modem is defective (FCB PCB)<br>[UF-880: MDM PCB]<br>Software problem occurred (FCB PCB)<br>[UF-880: MDM PCB] |
| 220               | RCV                   | C           | Receiver could not detect RTC at the end of Phase C   | Line quality is poor. (RTC is distorted due to line noise)  |
| 221               |                       |             |   |   |
| 301               | XMT<br>RCV            |             | System fault  | Software problem occurred (FCB PCB)   |
| 331               | XMT                   | C           | 8-minute timer error (Germany only)   |   |

| Information Codes |                      |        |  |  |
|-------------------|----------------------|--------|--|--|
| Code              | Mode                 | Phase  | Description of Problem   | Cause  |
| 400               | XMT                  | B      | T1 timer (35 ± 5 sec) elapsed without detecting 300 bps signal   | Wrong number is dialed and the START button is pushed<br>Telephone line is disconnected while dialing<br>FCB PCB [UF-880: MDM PCB] (Modem) or LCU PCB is defective<br>Receiver is defective (It may only be transmitting CED.) |
| 401               | XMT                  | B      | DCN was returned from receiver while transmitter is waiting for CFR or FTT.  | No mailbox available in the receiver<br>Possible incompatibility (Password Transmission)   |
| 402               | XMT                  | B      | DCN was returned from receiver while transmitter is waiting for NSF/DIS.   | Receiver working in non-CCITT mode only (Possible incompatibility)   |
| 403               | RCV (POLLING)        | B      | Transmitter had no polling function.   | "POLLED=ON" (polling XMT ready) is not set at the transmitter<br>Document to be transmitted is not placed at the transmitter   |
| 404               | XMT                  | B      | Transmitter sent NSS (or DCS) followed by TCF three times, but the receiver did not respond. (CFR or FTT is usually returned.)   | Receiver is defective (Modem, LCU PCB, etc.)<br>FCB PCB or LCU PCB is defective<br>Receiver disconnects line during first NSS (or DCS) is transmitted  |
| 405               | XMT                  | B      | Transmitter received FTT after it transmitted TCF at 2400 bps.<br>Received RTN after communicating at 2400 bps.  | Line quality is poor. (TCF is damaged due to line noise.)<br>Receiver is defective (Modem, LCU PCB, etc.)<br>FCB PCB or LCU PCB is defective   |
| 406               | RCV (Password Comm.) | B      | XMT-Password mismatched.<br>RCV-Password mismatched.<br>Selective RCV incomplete.  | XMT, RCV password does not match<br>Last 4 digits of TSI does not match with the last 4 digits of ONE-TOUCH, ABBR telephone number.  |
| 407               | XMT                  | D      | Transmitter received no response after it transmitted post message, such as EOP, MPS, EOM, etc.<br>Or received DCN.  | Receiver is defective (No paper, paper jamming, etc.)<br>Receiver ceased receiving because of excessive error (Line quality is poor.)<br>FCB PCB [UF-880: MDM PCB] (Modem) or LCU PCB is defective                             |
| 408               | XMT                  | D      | Transmitter received RTN after it transmitted EOP, MPS, or EOM.  | Receiver receives data with error. (Line quality is poor.)<br>Receiver is defective (Modem, LCU, etc.)<br>FCB PCB or LCU PCB is defective  |
| 409               | XMT                  | D      | Transmitter receives PIN after it transmitted a post message, such as EOP, MPS, EOM, etc.  | Receiver receives data with error due to poor line quality, and receiving operator requests voice contact<br>Receiver is defective (Modem, LCU, etc.)<br>FCB PCB or LCU PCB are defective                                      |
| 410               | RCV                  | D      | Received DCN while waiting for post command (EOP, MPS, EOM, etc.)  | Interface or line is faulty<br>Transmitter is defective  |
| 411               | RCV (Polling)        | B      | Received DCN after transmitting NSC  | Transmitter is not ready for polling communication<br>Password does not match between transmitter and receiver   |
| 412               | G3 RX                | B<br>D | No response within 12 seconds in NSS/DCS/MPS wait state. (After transmitting FTT, MCF, or CFR)   | Transmitter is defective<br>FCB PCB is defective   |
| 414               | RCV (Polling)        | B      | No response received after transmitting 3rd NSC.   | Password does not match between transmitter and receiver<br>Transmitter is defective (No document, document jam, etc.)   |
| 415               | XMT (Polling)        | B      | Remote side attempted to receive message from your machine in polling communication.<br>"Inform the remote side that your machine does not have the polling transmission feature." |  |
| 416               | RCV                  | D      | Receiver did not detect post command, such as EOP, MPS, EOM, etc.  | Transmitter is defective<br>Line quality is poor (RTC signal is distorted due to line noise.)<br>FCB PCB or LCU PCB are defective  |

| Information Codes |                                   |         |   |  |
|-------------------|-----------------------------------|---------|---|--|
| Code              | Mode                              | Phase   | Description of Problem  | Cause  |
| 417               | RCV                               | C       | Receiver returned RTN in response to post message.  | Line quality is poor. (There are excessive errors in received data.)<br>FCB PCB or LCU PCB are defective                     |
| 418               | RCV                               | C       | Receiver transmitted PIN in response to PRI-Q from transmitter. (Transmitting operator requests voice contact)                            | Line quality is poor (There are excessive errors in received data.)<br>FCB PCB or LCU PCB are defective                      |
| 420               | RCV                               | B       | T1 timer (35 sec.) elapsed without detecting 300 bps signal. (The 420 code is not displayed on the panel.)                                | There is a wrong incoming call (non-facsimile communication.)<br>Transmitter is defective<br>FCB PCB or LCU PCB is defective |
| 422               | XMT                               | B       | Content of NSF (or DIS) or NSC (or DTC) was invalid.  | There is an incompatibility  |
| 427               | G3 RCV                            | B       | DCN received to NSF/CSI/DIS transmitted.  | The interface is incompatible  |
| 434               | XMT or RCV                        | B       | CD (response from Modem) did not turn OFF within 180 sec. after receiver detected FLAG signal.  | Remote unit is defective<br>FCB PCB or LCU PCB is defective  |
| 436               | G3 RX                             | C       | DCN received after transmitting FTT.  | Transmitter is defective or incompatible<br>Line quality is poor   |
| 456               | RCV                               | B       | Received relay transfer request or confidential document to distribute to a end receiving station or all confidential mailboxes are used. |  |
| 457               | RELAY<br>XMT<br>CONF.<br>XMT/POLL | B       | Remote unit does not have Relayed XMT or Confidential Comm. capability.   |  |
| 459               | RCV                               | C       | Failed training in Phase C.   | Line quality is poor (Training signal is distorted due to line noise.)<br>FCB PCB or LCU PCB are defective                   |
| 490               | RCV                               | C       | Sum of error line exceeded the limit (Parameter 70) by 64 lines.  | Line quality is poor<br>FCB PCB or LCU PCB are defective   |
| 494               | RCV                               | C       | Interval between two EOLs was more than 10 sec. when receiver received message data.  | Transmitter is defective<br>Line quality is poor (EOL is damaged due to line noise.)<br>FCB PCB or LCU PCB are defective     |
| 495               | XMT/RCV                           | C       | During reception, CD turned OFF or continued ON for long time.<br>During communication, lost loop-current.                                | Line is disconnected<br>Transmitter is defective<br>FCB PCB or LCU PCB are defective   |
| 496               | XMT                               | C       | CS of modem is not able to turn ON.   | FCB PCB is defective   |
| 497               | XMT                               | B       | CS of modem is not able to turn ON during training.   | FCB PCB is defective   |
| 501               | XMT/RCV<br>(V.34)                 | B       | Remote unit does not have Modem compatibility.  |  |
| 502               | XMT/RCV<br>(V.34)                 | B, C, D | During reception, CD turned OFF or continued ON for long time.<br>During communication, lost loop-current.                                | Line is disconnected Transmitter is defective<br>FCB PCB or LCU PCB are defective  |
| 503               | XMT/RCV<br>(V.34)                 | B, C, D | CS of modem is not able to turn ON during training.   | FCB PCB is defective   |
| 540               | XMT ECM                           | B       | No response after transmitting 3rd CTC.   | Incompatible interface   |
| 541               | XMT ECM                           | D       | No response after transmitting 3rd EOR or received DCN.   | Line is faulty<br>LCU PCB abnormal   |
| 542               | XMT ECM                           | D       | No response to the 3rd RR transmitted or received DCN.  | Remote unit is abnormal  |
| 543               | XMT ECM                           | D       | T5 timer (60 sec) elapsed without MCF.  | Remote unit is abnormal  |
| 544               | XMT ECM                           | D       | Stopped Transmission after EOR Transmission.  | Line is faulty<br>LCU PCB abnormal   |
| 554               | RCV ECM                           | D       | Transmitted ERR after receiving EOR.  | Faulty line  |
| 555               | RCV ECM                           | D       | Transmitted PIN after receiving EOR.  | Faulty line and Operator Call requested by RX side   |
| 570               | RCV                               | B       | Password or machine code did not match during remote diagnostic communication.  |  |
| 571               | XMT                               | B       | Remote unit did not have the remote diagnostic function.  |  |

| Information Codes |  |       |  |   |
|-------------------|--|-------|--|---|
| Code              | Mode   | Phase | Description of Problem   | Cause   |
| 572               | XMT  | C     | There was no response while machine transmitted the data during remote diagnostic communication. | Remote unit is defective  |
| 573               | RCV  | C     | Unit could not receive the data from remote unit during remote diagnostic communication.         | Remote unit is defective  |
| 580               | XMT  | B     | Sub-address transmission to a unit that has their DIS bit 49 (NSF bit 155) OFF.                  | Sub-address transmission to a unit that has no Sub-address function.  |
| 581               | XMT  | B     | Sub-address Password transmission to a unit that has their DIS bit 50 (NSF bit 156) OFF.         | Sub-address transmission to a unit that has no Sub-address function.  |
| 601               | XMT  |       | ADF Door was opened during ADF transmission.   |   |
| 623               | XMT  | A     | No document was in the ADF. (Built-in dialer engaged)  | Operator removed the document from the ADF after dialing was completed<br>Document is not set properly in the ADF   |
| 630               | XMT or RCV (Polling)                         | B     | Redial count over  | No dial tone detected<br>Second dial tone is not detected (country dependent)<br>Busy tone is detected (country dependent)<br>T1 timer (35 ± 5 sec) elapsed without a signal from the receiver      |
| 631               | XMT  | A     | "STOP" button was pressed during Auto Dialing.   |   |
| 634               | XMT  |       | Redial count over with no response.  |   |
| 638               | XMT  |       | Power turned off with applicable data in memory or during communication.                         | Power switched off<br>Power failure occurred  |
| 870               | Mem. XMT Multi-copy                          |       | Memory overflow.<br>File register full.  |   |
| 879               | Mem. RCV                                     |       | Memory overflow during memory reception or substitute reception.                                 |   |
| 962               |  |       | Memory file access error   | FCB PCB is defective  |
| 975               | Initial test                                 |       | Memory parity error  | Memory card was installed or removed when data was in the DRAM on the FCB PCB or a power failure has occurred while data was stored in the memory. (DRAM battery backup is not available on UF-550) |
| 995               | Conf. XMT<br>Conf. Polling,<br>Relay Request |       | Parameter setting for Relay Comm. or Conf. Comm is invalid.                                      |   |

## 4.8 Diagnostic Codes

The 13-digit Diagnostic Code is provided for the service engineer to analyze how the communication was performed. The code is recorded on the Journal.

### Journal Example

```
***** -JOURNAL- ***** DATE JAN-12-1997 ***** TIME 11:49*****
```

| NO. | COM | PAGES | FILE | DURATION | X/R | IDENTIFICATION | DATE   | TIME  | DIAGNOSTIC    |
|-----|-----|-------|------|----------|-----|----------------|--------|-------|---------------|
| 01  | OK  | 001   | 129  | 00:00'29 | RCV | 123 456 789    | JAN-12 | 15:10 | C0542B0337000 |
| 02  | OK  | 005   | 130  | 00:04'01 | XMT | 2015551212     | JAN-12 | 16:00 | C8444B0337000 |

1st Digit ↗ 13th Digit ↘

-PANASONIC PANAFAX UF- XXX -

```
***** -PANAFAX UF-XXX - ***** -12345678901234567890- *****
```

### 1st Digit: Manufacturer Code

:- Not used/defined

| Data | Definition |  |  |  |
|------|------------|--|--|--|
|      |            |  |  |  |
| 0    |            |  |  |  |
| 1    |            |  |  |  |
| 2    |            |  |  |  |
| 3    |            |  |  |  |
| 4    |            |  |  |  |
| 5    |            |  |  |  |
| 6    |            |  |  |  |
| 7    |            |  |  |  |
| 8    |            |  |  |  |
| 9    |            |  |  |  |
| A    |            |  |  |  |
| B    |            |  |  |  |
| C    |            |  |  |  |
| D    |            |  |  |  |
| E    |            |  |  |  |
| F    |            |  |  |  |

**2nd Digit**

-: Not used/defined

| Data | Definition |             |               |                 |
|------|------------|-------------|---------------|-----------------|
|      | DCN        | STOP Button | Voice Contact | Built-in Dialer |
| 0    | —          | —           | —             | —               |
| 1    | Received   | —           | —             | —               |
| 2    | —          | Pressed     | —             | —               |
| 3    | Received   | Pressed     | —             | —               |
| 4    | —          | —           | Requested     | —               |
| 5    | Received   | —           | Requested     | —               |
| 6    | —          | Pressed     | Requested     | —               |
| 7    | Received   | Pressed     | Requested     | —               |
| 8    | —          | —           | —             | Used            |
| 9    | Received   | —           | —             | Used            |
| A    | —          | Pressed     | —             | Used            |
| B    | Received   | Pressed     | —             | Used            |
| C    | —          | —           | Requested     | Used            |
| D    | Received   | —           | Requested     | Used            |
| E    | —          | Pressed     | Requested     | Used            |
| F    | Received   | Pressed     | Requested     | Used            |

**3rd Digit**

-: Not used/defined

| Data | Definition    |                      |                                  |  |
|------|---------------|----------------------|----------------------------------|--|
|      | Receive Start | ID (TSI, CSI or CIG) | Polling TX in Turnaround Polling |  |
| 0    | —             | —                    | —                                |  |
| 1    | Automatic     | —                    | —                                |  |
| 2    | Manual        | —                    | —                                |  |
| 3    | —             | —                    | —                                |  |
| 4    | —             | Received             | —                                |  |
| 5    | Automatic     | Received             | —                                |  |
| 6    | Manual        | Received             | —                                |  |
| 7    | —             | —                    | —                                |  |
| 8    | —             | —                    | Used                             |  |
| 9    | Automatic     | —                    | Used                             |  |
| A    | Manual        | —                    | Used                             |  |
| B    | —             | —                    | —                                |  |
| C    | —             | Received             | Used                             |  |
| D    | Automatic     | Received             | Used                             |  |
| E    | Manual        | Received             | Used                             |  |
| F    | —             | —                    | —                                |  |

4th Digit

:- Not used/defined

| Data | Definition  |                |              |                |
|------|-------------|----------------|--------------|----------------|
|      | Relayed XMT | Short Protocol | Password XMT | Deferred Comm. |
| 0    | —           | —              | —            | —              |
| 1    | —           | —              | —            | Used           |
| 2    | Used        | —              | —            | —              |
| 3    | —           | —              | —            | —              |
| 4    | —           | Used           | —            | —              |
| 5    | —           | Used           | —            | Used           |
| 6    | Used        | Used           | —            | —              |
| 7    | —           | —              | —            | —              |
| 8    | —           | —              | Used         | —              |
| 9    | —           | —              | Used         | Used           |
| A    | Used        | —              | Used         | —              |
| B    | —           | —              | —            | —              |
| C    | —           | Used           | Used         | —              |
| D    | —           | Used           | Used         | Used           |
| E    | Used        | Used           | Used         | —              |
| F    | —           | —              | —            | —              |

5th Digit

:- Not used/defined

| Data | Definition  |      |      |                         |
|------|-------------|------|------|-------------------------|
|      | Polling RCV | RCV  | XMT  | Turnaround Polling Mode |
| 0    | —           | —    | —    | —                       |
| 1    | Used        | —    | —    | —                       |
| 2    | —           | Used | —    | —                       |
| 3    | —           | —    | —    | —                       |
| 4    | —           | —    | Used | —                       |
| 5    | —           | —    | —    | —                       |
| 6    | —           | —    | —    | —                       |
| 7    | —           | —    | —    | —                       |
| 8    | —           | —    | —    | Used                    |
| 9    | —           | —    | —    | —                       |
| A    | —           | Used | —    | Used                    |
| B    | —           | —    | —    | —                       |
| C    | —           | —    | Used | Used                    |
| D    | —           | —    | —    | —                       |
| E    | —           | —    | —    | —                       |
| F    | —           | —    | —    | —                       |

**6th Digit**

:- Not used/defined

| Data | Definition |          |              |  |
|------|------------|----------|--------------|--|
|      | ECM        | G3/G3-N  | Memory Comm. |  |
| 0    | —          | —        | —            |  |
| 1    | —          | —        | —            |  |
| 2    | —          | —        | —            |  |
| 3    | —          | —        | —            |  |
| 4    | —          | G3 Std   | —            |  |
| 5    | Used       | G3 Std   | —            |  |
| 6    | —          | G3 Std   | Used         |  |
| 7    | Used       | G3 Std   | Used         |  |
| 8    | —          | G3 N-Std | —            |  |
| 9    | Used       | G3 N-Std | —            |  |
| A    | —          | G3 N-Std | Used         |  |
| B    | Used       | G3 N-Std | Used         |  |
| C    | —          | —        | —            |  |
| D    | —          | —        | —            |  |
| E    | —          | —        | —            |  |
| F    | —          | —        | —            |  |

**7th Digit**

:- Not used/defined

| Data | Definition |                 |  |  |
|------|------------|-----------------|--|--|
|      | V.24 Mode  | Encryption Mode |  |  |
| 0    | —          | —               |  |  |
| 1    | —          | —               |  |  |
| 2    | —          | —               |  |  |
| 3    | —          | —               |  |  |
| 4    | —          | Used            |  |  |
| 5    | —          | —               |  |  |
| 6    | —          | —               |  |  |
| 7    | —          | —               |  |  |
| 8    | Used       | —               |  |  |
| 9    | —          | —               |  |  |
| A    | —          | —               |  |  |
| B    | —          | —               |  |  |
| C    | —          | —               |  |  |
| D    | —          | —               |  |  |
| E    | —          | —               |  |  |
| F    | —          | —               |  |  |



## 8th Digit

-: Not used/defined

| Data | Definition |        |  |  |
|------|------------|--------|--|--|
|      | Resolution | Coding |  |  |
| 0    | —          | —      |  |  |
| 1    | —          | —      |  |  |
| 2    | STD        | MH     |  |  |
| 3    | STD        | MMR    |  |  |
| 4    | FINE       | MH     |  |  |
| 5    | FINE       | MMR    |  |  |
| 6    | S-FINE     | MH     |  |  |
| 7    | S-FINE     | MMR    |  |  |
| 8    | —          | —      |  |  |
| 9    | —          | —      |  |  |
| A    | STD        | MR     |  |  |
| B    | —          | —      |  |  |
| C    | FINE       | MR     |  |  |
| D    | —          | —      |  |  |
| E    | S-FINE     | MR     |  |  |
| F    | —          | —      |  |  |

## 9th Digit: Manufacturer Code

-: Not used/defined

| Data | Definition  |                    |            |  |
|------|-------------|--------------------|------------|--|
|      | Modem Speed | Symbol Rate (V.34) | Polling TX |  |
| 0    | 2400 bps    | 2400 sr            | —          |  |
| 1    | 4800 bps    | —                  | —          |  |
| 2    | 7200 bps    | 2800 sr            | —          |  |
| 3    | 9600 bps    | 3000 sr            | —          |  |
| 4    | TC7200 bps  | 3200 sr            | —          |  |
| 5    | TC9600 bps  | 3429 sr            | —          |  |
| 6    | 12000 bps   | —                  | —          |  |
| 7    | 14400 bps   | —                  | —          |  |
| 8    | 2400 bps    | 2400 sr            | Yes        |  |
| 9    | 4800 bps    | —                  | Yes        |  |
| A    | 7200 bps    | 2800 sr            | Yes        |  |
| B    | 9600 bps    | 3000 sr            | Yes        |  |
| C    | TC7200 bps  | 3200 sr            | Yes        |  |
| D    | TC9600 bps  | 3429 sr            | Yes        |  |
| E    | 12000 bps   | —                  | Yes        |  |
| F    | 14400 bps   | —                  | Yes        |  |

Note: (UF-880)

When 11th Digit is "0", 9th Digit indicates Modem Speed V.27ter, V.29, V.33, V.17.

When 11th Digit is not "0", 9th Digit Indicates Symbol Rate V.34.

**10th Digit (UF-880)**

~: Not used/defined

| Data | Definition    |        |  |  |
|------|---------------|--------|--|--|
|      | Scanning Rate | Coding |  |  |
| 0    | 20 ms / line  | —      |  |  |
| 1    | 5 ms / line   | —      |  |  |
| 2    | 10 ms / line  | —      |  |  |
| 3    | —             | —      |  |  |
| 4    | 40 ms / line  | —      |  |  |
| 5    | —             | —      |  |  |
| 6    | —             | —      |  |  |
| 7    | 0 ms / line   | —      |  |  |
| 8    | —             | —      |  |  |
| 9    | —             | —      |  |  |
| A    | —             | —      |  |  |
| B    | —             | —      |  |  |
| C    | —             | —      |  |  |
| D    | —             | —      |  |  |
| E    | —             | —      |  |  |
| F    | 0 ms / line   | JBIG   |  |  |

**11th Digit (UF-880)**

~: Not used/defined

| Data | Definition         |  |  |  |
|------|--------------------|--|--|--|
|      | Modem Speed (V.34) |  |  |  |
| 0    | not V.34           |  |  |  |
| 1    | 2400 bps           |  |  |  |
| 2    | 4800 bps           |  |  |  |
| 3    | 7200 bps           |  |  |  |
| 4    | 9600 bps           |  |  |  |
| 5    | 12000 bps          |  |  |  |
| 6    | 14400 bps          |  |  |  |
| 7    | 16800 bps          |  |  |  |
| 8    | 19200 bps          |  |  |  |
| 9    | 21600 bps          |  |  |  |
| A    | 24000 bps          |  |  |  |
| B    | 26400 bps          |  |  |  |
| C    | 28800 bps          |  |  |  |
| D    | 31200 bps          |  |  |  |
| E    | 33600 bps          |  |  |  |
| F    | —                  |  |  |  |

**Note: (UF-880)**

When 11th Digit is "0", 9th Digit indicates Modem Speed V.27ter, V.29, V.33, V.17.

When 11th Digit is not "0", 9th Digit indicates Symbol Rate V.34.

## 12th Digit

-: Not used/defined

| Data | Definition         |              |  |  |
|------|--------------------|--------------|--|--|
|      | Confidential Comm. | RTN Received |  |  |
| 0    | —                  | —            |  |  |
| 1    | Yes                | —            |  |  |
| 2    | —                  | —            |  |  |
| 3    | —                  | —            |  |  |
| 4    | —                  | —            |  |  |
| 5    | —                  | —            |  |  |
| 6    | —                  | —            |  |  |
| 7    | —                  | —            |  |  |
| 8    | —                  | Yes          |  |  |
| 9    | Yes                | Yes          |  |  |
| A    | —                  | —            |  |  |
| B    | —                  | —            |  |  |
| C    | —                  | —            |  |  |
| D    | —                  | —            |  |  |
| E    | —                  | —            |  |  |
| F    | —                  | —            |  |  |

## 13th Digit: Always "0"

-: Not used/defined

| Data | Definition |  |  |  |
|------|------------|--|--|--|
|      |            |  |  |  |
| 0    |            |  |  |  |
| 1    |            |  |  |  |
| 2    |            |  |  |  |
| 3    |            |  |  |  |
| 4    |            |  |  |  |
| 5    |            |  |  |  |
| 6    |            |  |  |  |
| 7    |            |  |  |  |
| 8    |            |  |  |  |
| 9    |            |  |  |  |
| A    |            |  |  |  |
| B    |            |  |  |  |
| C    |            |  |  |  |
| D    |            |  |  |  |
| E    |            |  |  |  |
| F    |            |  |  |  |

## **Chapter 5**

### **Test Modes**

## **5.1 Test Mode Table**

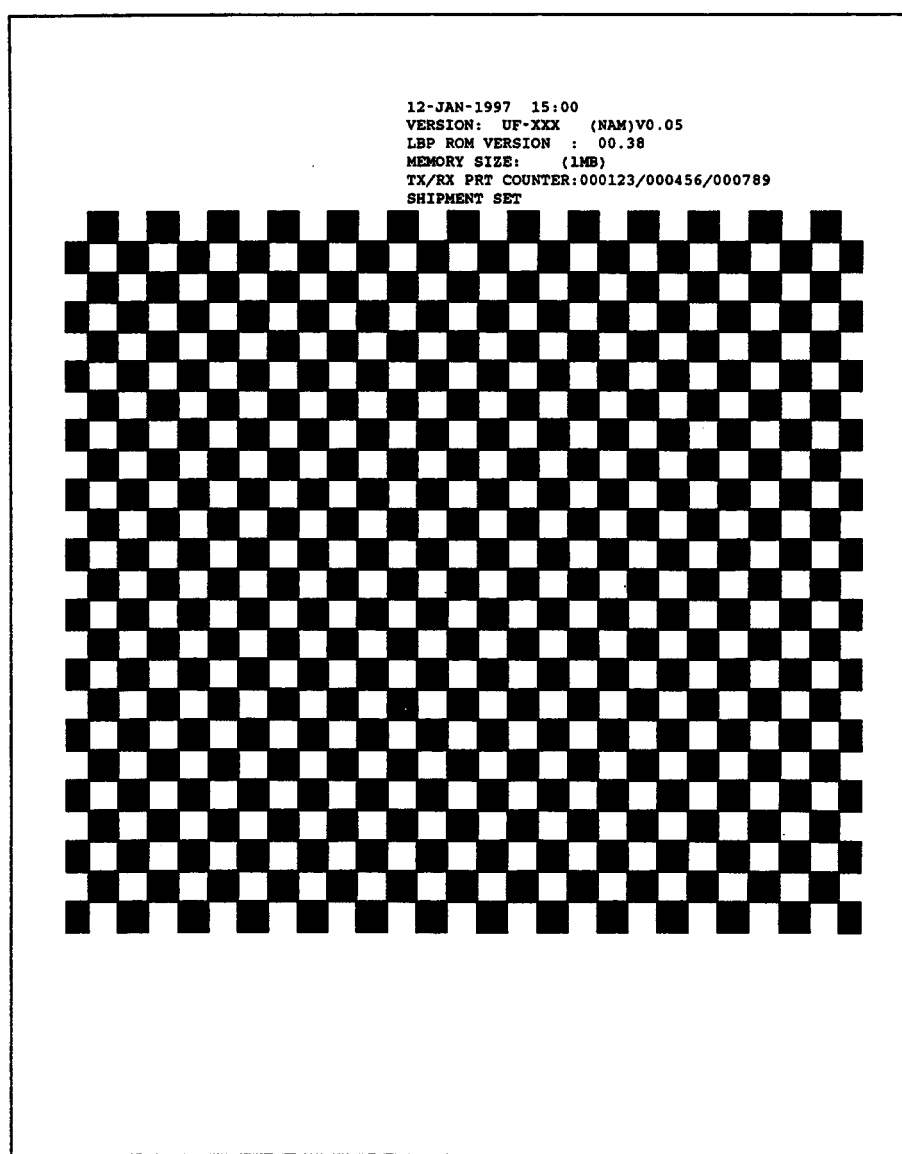
The following test modes are provided to assist you in setting operational functions of the unit and determining the condition of the unit.

| <b>No.</b> | <b>Test Mode</b>                 | <b>Description</b>   |
|------------|----------------------------------|--|
| 0          | Page Memory Test                 | Prints a test pattern to check the page memory and printer mechanism.    |
| 1          | Function Parameter Setting       | Changes the function parameters (the home position, etc.).               |
| 2          | Not Used                         |  |
| 3          | Function Parameter List Printout | Prints a list of all function parameters.                                |
| 4          | Binary Signal Generation         | Generates various binary signals, by the modem.                          |
| 5          | Tonal Signal Generation          | Generates various tonal signals, by the modem.                           |
| 6          | RAM Initialization               | Initialize RAM and restore the default value of the function parameters. |
| 7          | DTMF Signal Generation           | Generates various DTMF signals for dialing.                              |
| 8          | Not Used                         |  |
| 9          | RAM Test (Doc. Mem. Test)        | Checks the Document Memory DRAM.   |
| 10         | LED, LCD and CCD Test            | Checks the LED, LCD and CCD.   |
| 11         | Not Used                         |  |
| 12         | LBP Service Mode                 | Changes the Printer Parameters (the home position, etc.).                |

## 5.2 Test Mode 0 (Page Memory Test)

A test pattern is printed out for checking the page memory (IC 1,17 on the FCB PCB) and printer mechanism using the following procedure.

| Step | Operation or Unit Condition   | LCD Display                        |
|------|---|------------------------------------|
| 1    | Standby   | 12-JAN-1997 15:00<br>00%           |
| 2    | Press "FUNCTION" and then "7".  | SET MODE (1-6)<br>ENTER NO. OR √ ^ |
| 3    | Press "MONITOR" four times, then press " * ".                           | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 4    | Press "0" and "START".  | * PRINTING *<br>PAGE MEMORY TEST   |
| 5    | After printing is completed, the unit returns to the display of step 3. | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 6    | Press "STOP" to return to standby.                                      | 12-JAN-1997 15:00<br>00%           |



### 5.3 Test Mode 1 (Function Parameter Setting)

Use the following procedure to change function parameters.

| Step | Operation or Unit Condition  | LCD Display                               |
|------|--|---|
| 1    | Standby  | 12-JAN-1997 15:00<br>00%                  |
| 2    | Press <b>"FUNCTION"</b> and then <b>"7"</b> .  | SET MODE (1-6)<br>ENTER NO. OR ∨ ∧        |
| 3    | Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .   | TEST MODE<br>NO.=_ (ENTER 0-12)           |
| 4    | Press <b>"1"</b> and <b>"START"</b> .  | TEST MODE (00-99)<br>ENTER TEST MODE #    |
| 5    | Enter the Function Parameter Number.<br>Ex: Changing <b>"ALARM STATUS"</b> — Enter <b>"01"</b>             | TEST MODE #01<br>ALARM STATUS ?           |
| 6    | Press <b>"START"</b> .   | ALARM STATUS:Timer<br>1:Timer 2:Constant  |
| 7    | Enter the new setting value.<br>Ex: Enter <b>"2"</b> for Constant.   | ALARM STATUS:Const.<br>1:Timer 2:Constant |
| 8    | Press <b>"START"</b> . The new value will be stored and the next parameter will be displayed.              | TEST MODE #02<br>** NO JOB **             |
| 9    | Repeat steps 5 through 8 to change other Function Parameters, or press <b>"STOP"</b> to return to standby. | 12-JAN-1997 15:00<br>00%                  |

**Note:** The following buttons provide these functions in the test mode:

**"START"**: The new setting value is stored in the machine.

**"∧"**: Scroll the function parameter number up.

**"∨"**: Scroll the function parameter number down

| Function Parameter Table |                 |                           |                |  |
|--------------------------|-----------------|---------------------------|----------------|--|
| No.                      | Parameter       | Selections                |                | Function   |
| 00                       | MON/TEL DIAL    | 1 = Monitor               |                | Selects whether or not the machine starts TX automatically on On-Hook dialing.<br>(Monitor: Start TX after pressing START)<br>(TEL/DIAL: Start TX automatically)                             |
|                          |                 | 2 = TEL/DIAL              |                |  |
| 01                       | ALARM STATUS    | 1 = Timer (6 sec.)        |                | Selects No Paper or NoToner alarm. If CONSTANT, the alarm will not stop until "STOP" is pressed or the error is cleared.   |
|                          |                 | 2 = Constant              |                |  |
| 02                       | STOP COMM. JRNL | 1 = Off                   |                | Selects whether the machine prompts to print the COMM. Journal when the printout condition is set to INC and STOP is pressed during communication.   |
|                          |                 | 2 = On                    |                |  |
| 03                       | CONTINUOUS POLL | 1 = Off                   |                | Selects the Continuous Polling feature:<br>Stn (Tx Only) - to be polled directly from ADF when document is set. Hub - to poll a group of Stations Continuously until it is manually stopped. |
|                          |                 | 2 = Stn (Tx only)         |                |  |
|                          |                 | 3 = Hub                   |                |  |
| 04                       | NUMERIC ID SET  | 1 = Off (will not accept) |                | Selects whether or not the machine accepts to set or change Numeric ID.  |
|                          |                 | 2 = On (accepts)          |                |  |
| 05                       | Not used        |                           |                |  |
| 06                       | ID DISPLAY      | 1 = Number (Numeric ID)   |                | Selects the priority of displaying ID.   |
|                          |                 | 2 = Chara (Character ID)  |                |  |
| 07                       | JNL COLUMN      | 1 = Preset station name   |                | Selects contents of ID column on Journal.  |
|                          |                 | 2 = Received ID           |                |  |
| 08                       | MONITOR         | 1 = Off                   |                | Selects Monitor ON/OFF for monitoring fax signals.<br>(FOR SERVICE USE ONLY)   |
|                          |                 | 2 = On                    |                |  |
| 09                       | DC LOOP         | 1 = Off (normal)          |                | Selects a false Off Hook state for back to back communication test.  |
|                          |                 | 2 = On (Off Hook)         |                |  |
| 10                       | TX LEVEL        | 00 = 0 dBm                |                | Selects signal output level, 0 to -15 dBm in 1dBm steps.<br>(Refer to Chapter 4.3.3~4.3.5)   |
|                          |                 | ~                         |                |  |
|                          |                 | 15 = -15 dBm              |                |  |
| 11                       | RX LEVEL        | 1 = -43 dBm               |                | Selects receiving sensitivity of -33/-38/-43/-48 dBm.<br>(Refer to Chapter 4.3.3~4.3.5)  |
|                          |                 | 2 = -38 dBm               |                |  |
|                          |                 | 3 = -33 dBm               |                |  |
|                          |                 | 4 = -48 dBm               |                |  |
| 12                       | DTMF LEVEL      | 00 = 0 dBm                |                | Selects DTMF output level, 0 to -15 dBm in 1dBm steps.   |
|                          |                 | ~                         |                |  |
|                          |                 | 15 = -15 dBm              |                |  |
| 13                       | G3 RX EQL       | UF-770                    | 1 = Off        | Selects whether the cable equalizer in G3 reception mode is On or Off.   |
|                          |                 |                           | 2 = On         |  |
|                          |                 | UF-880                    | 1 = 0 dB       | Selects the cable equalizer in G3 reception level, 0, 4, 8 or 12 dB.   |
|                          |                 |                           | 2 = 4 dB       |  |
|                          |                 |                           | 3 = 8 dB       |  |
| 14                       | Not used        | UF-770                    | Not used       |  |
|                          |                 |                           | 1 = 0 dB       |  |
|                          |                 | UF-880                    | 2 = 4 dB       | Selects the cable equalizer in G3 transmission level, 0, 4, 8 or 12 dB.  |
|                          |                 |                           | 3 = 8 dB       |  |
|                          |                 |                           | 4 = 12 dB      |  |
| 15                       | G3 TX EQL       | UF-880                    | Not used       |  |
|                          |                 |                           | 1 = 0 dB       |  |
| 16                       | PRINT COUNTER   |                           | 1 = Off        | Selects whether to print in the Fax Parameter List, the counter information that is displayed in the Function Parameter No. 61.  |
|                          |                 |                           | 2 = On         |  |
| 17                       | TX START        | UF-770                    | 1 = 2400 bps   | Selects transmission modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps.   |
|                          |                 |                           | 2 = 4800 bps   |  |
|                          |                 |                           | 3 = 7200 bps   |  |
|                          |                 |                           | 4 = 9600 bps   |  |
|                          |                 |                           | 5 = TC7200 bps |  |
|                          |                 |                           | 6 = TC9600 bps |  |
|                          |                 |                           | 7 = 12000 bps  |  |
|                          |                 |                           | 8 = 14400 bps  |  |
|                          |                 | UF-880                    | 2400~33600 bps | Selects transmission modem start speed, 33600~2400 bps. Press "v" or "x" to select displayed speed.  |
| 18                       | RX START        | UF-770                    | 1 = 2400 bps   | Selects receiving modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps.  |
|                          |                 |                           | 2 = 4800 bps   |  |
|                          |                 |                           | 3 = 7200 bps   |  |
|                          |                 |                           | 4 = 9600 bps   |  |
|                          |                 |                           | 5 = TC7200 bps |  |
|                          |                 |                           | 6 = TC9600 bps |  |



| Function Parameter Table |  |            |                                |   |
|--------------------------|--|------------|--------------------------------|---|
| No.                      | Parameter  | Selections |                                | Function  |
| 18                       | RX START   | UF-770     | 7 = 12000 bps                  | Selects receiving modem start speed, 33600~2400 bps. Press "v" or "^" to select displayed speed.  |
|                          |  |            | 8 = 14400 bps                  |   |
|                          |  | UF-880     | 2400~33600 bps                 |   |
| 19                       | ITU-T V.34   | UF-770     | Not used                       | Selects whether the ITU-T V.34 is On, Off or select. (Select: Select whether the ITU-T V.34 is On or Off, when entering One-Touch/Abbreviated Dialing Numbers or Manual Number Dialing) |
|                          |  | UF-880     | 1 = Off                        |   |
|                          |  |            | 2 = On                         |   |
| 20                       | ITU-T ECM  |            | 3 = Select                     | Selects ECM mode.   |
|                          |  |            | 1 = Off (Invalid)              |   |
| 21                       | EP TONE  |            | 2 = On (Valid)                 | Selects echo protect tone on V.29 mode, On (add) or Off (not add). (Used when Echo Suppression is disabled.)  |
|                          |  |            | 1 = Off (without EP Tone)      |   |
| 22                       | SIG. INTERVAL  |            | 2 = On (with EP Tone)          | Selects time interval between receiving signal and transmitting signal.   |
|                          |  |            | 1 = 100 ms                     |   |
|                          |  |            | 2 = 200 ms                     |   |
| 23                       | TCF CHECK  |            | 3 = 500 ms                     | Selects TCF check interval Long/Short.  |
|                          |  |            | 1 = Normal (Short)             |   |
| 24                       | CED FREQ.  |            | 2 = Long                       | Selects CED frequency 2100/1080 Hz.   |
|                          |  |            | 1 = 1080 Hz (non CCITT)        |   |
| 25                       | COMM. START-UP   |            | 2 = 2100 Hz                    | Selects communication start-up condition (XMT and Polling). (Used when Echo Suppression is disabled.)   |
|                          |  |            | 1 = 1'st response              |   |
| 26                       | NON-STANDARD   |            | 2 = 2'nd response              | Selects own mode (Panafax mode).  |
|                          |  |            | 1 = Off (Invalid)              |   |
| 27                       | SHORT PROTOCOL   |            | 2 = On (Valid)                 | Selects short protocol mode.  |
|                          |  |            | 1 = Off (Invalid)              |   |
| 28                       | ITU-T V33/17   |            | 1 = +V17 (V33 + V17)           | Selects the type of modem to be identified to the remote station, when communicating with other manufacturer.   |
|                          |  |            | 2 = V33                        |   |
|                          |  |            | 3 = Off (V29 and V27 ter only) |   |
| 29                       | REMOTE DIAG.   |            | 1 = Off (not accepted)         | Selects whether or not the machine accepts Remote Diagnostics from the service station. Same function as fax parameter No.31.   |
|                          |  |            | 2 = On (accepted)              |   |
| 30                       | CED & 300bps   |            | 1 = 75 ms                      | Selects blank time between CED and 300 bps signal. (Used when Echo Suppression is disabled.)  |
|                          |  |            | 2 = 1 sec                      |   |
| 31                       | RTC = EOLx12   |            | 1 = Off (EOLx6)                | Selects RTC signal, EOLx6 or EOLx12.  |
|                          |  |            | 2 = On (EOLx12)                |   |
| 32                       | Not used   |            |                                |   |
| 36                       |  |            |                                |   |
| 37                       | PROTOCOL DISPLAY   |            | 1 = Off (not displayed)        | Selects whether to display the modem speed during communication. (Press the "*" or "#" key to display)  |
|                          |  |            | 2 = On (displayed)             |   |
| 38                       | Not used   |            |                                |   |
| 39                       | FLASH TIME   |            | 5 = 50 msec.                   | Selects hooking period of the Flash key.  |
|                          |  |            | ~                              |   |
|                          |  |            | 100 = 1 sec.                   |   |
| 40                       | FLASH TIME (PSTN)<br>(Except for North American version) |            | 5 = 50 msec.                   | Flash time 50 msec. ~ 1 sec.  |
|                          |  |            | ~                              |   |
|                          |  |            | 100 = 1 sec.                   |   |
| 41                       | PAUSE TIME   |            | 1 = 1 sec.                     | Selects pause time 1 sec. ~ 10 sec. for dialing through a switchboard or international calls  |
|                          |  |            | ~                              |   |
|                          |  |            | 10 = 10 sec.                   |   |
| 42                       | Not used   |            |                                |   |
| 43                       | REDIAL INTERVAL  |            | 0 = no waiting                 | Selects redial interval, 0 to 15 minutes in 1 minute steps.   |
|                          |  |            | ~                              |   |
|                          |  |            | 15 = 15 minutes                |   |
| 44                       | REDIAL COUNT   |            | 0 = no redial                  | Selects redial count 0 to 15 times in 1 step intervals  |
|                          |  |            | ~                              |   |
|                          |  |            | 15 = 15 times                  |   |
| 45                       | RING DET. COUNT  |            | 1 = 1 ring                     | Selects ring detect count 1 to 9 times in 1 step intervals.   |
|                          |  |            | ~                              |   |
|                          |  |            | 9 = 9 rings                    |   |
| 46                       | ON-HOOK TIME   |            | 0 = 0 sec.                     | Selects on-hook time between sequential communication calls in 1 second steps.  |
|                          |  |            | ~                              |   |
|                          |  |            | 90 = 90 sec.                   |   |

| Function Parameter Table |   |                                    |              |   |
|--------------------------|---|------------------------------------|--------------|---|
| No.                      | Parameter   | Selections                         |              | Function  |
| 47                       | RESPONSE WAIT                                       | 1 = 1 sec.                         |              | Selects waiting time for response after finishing the dialing.  |
|                          |   | ~                                  |              |   |
|                          |   | 90 = 90 sec.                       |              |   |
| 48                       | Not used  |                                    |              |   |
| 49                       | Not used  |                                    |              |   |
| 50                       | RING DET. MODE                                      | 1 = Normal                         |              | Selects quality of ringer detection. Use if the line signal is out of regulation, set "Rough" so unit may detect the signals.   |
|                          |   | 2 = Rough                          |              |   |
| 51                       | TONE DET. MODE                                      | 1 = Normal                         |              | Selects quality of dial tone and busy tone detection. Use if the line signals are out of regulation, set "Rough" so unit may detect the signals.  |
|                          |   | 2 = Rough                          |              |   |
| 52                       | PULSE RATE  | 1 = 10 PPS                         |              | Selects dial pulse rate 10/20 pps.  |
|                          |   | 2 = 20 PPS                         |              |   |
| 53                       | Not used  |                                    |              |   |
| 54                       | Not used  |                                    |              |   |
| 55                       | BUSY TONE CHECK                                     | 1 = Off                            |              | Selects Busy Tone detection function.   |
|                          |   | 2 = On                             |              |   |
| 56                       | DIAL TONE CHECK (Except for North American version) | 1 = Off                            |              | Selects whether to detect dial tone before dialing the telephone number.  |
|                          |   | 2 = On                             |              |   |
| 57                       | DC LOOP CHECK (Except for North American version)   | 1 = Off (not checked)              |              | Selects whether the unit checks the DC Loop during communication.   |
|                          |   | 2 = On (checked)                   |              |   |
| 58                       | COMM. JNL+IMAGE                                     | 1 = Off (without image)            |              | Selects whether the machine prints the COMM. Journal with image.  |
|                          |   | 2 = On (with image)                |              |   |
| 59                       | CONF. RCV REPORT                                    | 1 = Off (not printed out)          |              | Selects whether the machine prints the CONF.RCV REPORT.   |
|                          |   | 2 = On (printed out)               |              |   |
| 60                       | VERSION:  | Indicates ROM version.             |              |   |
| 61                       | TX/RX/PRINT COUNTER:                                | TX/RX/PRINT                        |              | Indicates transmitted, received and total printed document count.   |
| 62                       | TX SYM RATE   | UF-770                             | Not used     | Selects transmission symbol rate (V.34), 3429/3200/3000/2800/2400 sr. Press "v" or "^" to select displayed rate.  |
|                          |   | UF-880                             | 2400~3429 sr |   |
| 63                       | RX SYM RATE   | UF-770                             | Not used     | Selects receiving symbol rate (V.34), 3429/3200/3000/2800/2400 sr. Press "v" or "^" to select displayed rate.   |
|                          |   | UF-880                             | 2400~3429 sr |   |
| 64 ~ 69                  | Not used  |                                    |              |   |
| 70                       | LINE ERROR  | 1 = 128 lines                      |              | 1. Selects line disconnect condition during reception. If the number of line errors exceed this setting, the unit will disconnect the line.<br>2. Selects transmit condition of RTP/PIP or RTN/PIN. (Available if No.73 ERROR DETECT is set to "LINES".) (See Note 1) |
|                          |   | 2 = 256 lines                      |              |   |
|                          |   | 3 = 512 lines                      |              |   |
|                          |   | 4 = 1024 lines                     |              |   |
|                          |   | 5 = 2048 lines                     |              |   |
|                          |   | 6 = Off (will not disconnect line) |              |   |
| 71                       | TOTAL ERROR   | 1 = 5%                             |              | Selects transmit condition of RTP/PIP or RTN/PIN. (Available if No. 73 ERROR DETECT is set to "RATE".) (See Note 2)   |
|                          |   | 2 = 10%                            |              |   |
|                          |   | 3 = 15%                            |              |   |
|                          |   | 4 = 20%                            |              |   |
| 72                       | CONTI. ERROR  | 1 = 3 lines/STD                    |              | Selects continuous total error criteria of 3/6/12 lines of Off as Standard mode. If continuous total error exceeds this setting, the unit will transmit RTN/PIN. (Available if No.73 ERROR DETECT is set to "RATE")   |
|                          |   | 2 = 6 lines/STD                    |              |   |
|                          |   | 3 = 12 lines/STD                   |              |   |
|                          |   | 4 = Off (unlimited)                |              |   |
| 73                       | ERROR DETECT  | 1 = Lines                          |              | Selects the error detect condition Lines/Rate.  |
|                          |   | 2 = Rate                           |              |   |
| 74                       | RTN RECEIVE   | 1 = Disconnect                     |              | Selects reaction when "RTN" is received.  |
|                          |   | 2 = Continue                       |              |   |
| 75                       | MH/MR/MMR   | 1 = MH (MH only)                   |              | Selects coding scheme.  |
|                          |   | 2 = MR (MH or MR)                  |              |   |
|                          |   | 3 = MMR (MH, MR or MMR)            |              |   |
| 76                       | Not used  |                                    |              |   |
| 77                       | Not used  |                                    |              |   |
| 78                       | FUNCTION TX (with Center ROM only)                  | 1 = Off                            |              | Selects whether the unit transfers the RAM data to the remote station without Function parameter No.5 1 and Journal Informations.   |
|                          |   | 2 = SYS (transfer RAM data)        |              |   |

| Function Parameter Table |                                    |   |  |
|--------------------------|------------------------------------|---|--|
| No.                      | Parameter                          | Selections  | Function   |
| 79                       | FUNCTION RX (with Center ROM only) | 1 = Off   | Selects whether the unit retrieves the RAM data from the remote station.   |
|                          |                                    | 2 = SYS (retrieve RAM data without Journal Information) |  |
|                          |                                    | 3 = JNL (retrieve Journal Information)                  |  |
| 80                       | DOC TOP FEED                       | 00 = 00 mm  | Adjusts the distance between the scanning sensor ON position and the scanning start position.  |
|                          |                                    | ~   |  |
|                          |                                    | 99 = 99 mm  |  |
| 81                       | DOC END FEED                       | 00 = 00 mm  | Adjusts the distance between the scanning sensor OFF position and the scanning end position.   |
|                          |                                    | ~   |  |
|                          |                                    | 99 = 99 mm  |  |
| 82                       | JAM LENGTH                         | 1 = 1 m   | Selects the maximum length of a document that can be scanned.  |
|                          |                                    | 2 = 2 m   |  |
|                          |                                    | 3 = Unlimited   |  |
| 83                       | Not used                           |   |  |
| 84                       | LINE AS NO PAPER                   | 1 = Ring (ring)   | Selects whether to ring or send a busy tone to the remote station when recording paper runs out or the unit cannot receive because of any trouble. |
|                          |                                    | 2 = Busy (keep line busy)                               |  |
| 85                       | Not Used                           |   |  |
| 86                       | REDUCTION FINE                     | 1 = Off   | Selects whether the resolution is preset to Fine or not, when sending with reduction B4→A4.  |
|                          |                                    | 2 = On  |  |
| 87                       | DARKER LEVEL                       | 0 = Darkest Original                                    | Selects printing contrast level.<br>0↔1↔2↔3↔4↔5↔6<br>Dark←→Light   |
| 88                       | NORMAL LEVEL                       | ~   |  |
| 89                       | LIGHTER LEVEL                      | 6 = Lightest Original                                   |  |
| 90                       | Not used                           |   |  |
| 91                       | Not used                           |   |  |
| 92                       | SMOOTHING                          | 1 = Off   | Selects whether the smoothing function is available.   |
|                          |                                    | 2 = On  |  |
| 93                       | POWER SAVE TIMER                   | 1 to 255 minutes in 1 minute step.                      | Sets the idle period before the fusing heater is turned off after the last printing.   |
| 94 ~ 99                  | Not used                           |   |  |

**Note 1:** No. 70 LINE ERROR — Transmit condition of RTP/PIP or RTN/PIN

| Setting<br>Signal | 1 : 128 | 2 : 256 | 3 : 512 | 4 : 1024 | 5 : 2048  | 6 : Off |
|-------------------|---------|---------|---------|----------|-----------|---------|
| MCF/PIP           | 0-31    | 0-63    | 0-127   | 0-255    | 0-511     | Always  |
| RTP/PIP           | 32-63   | 64-127  | 128-255 | 256-511  | 512-1023  | -       |
| RTN/PIN           | 64-127  | 128-255 | 256-511 | 512-1023 | 1024-2047 | -       |

**Note 2:** No. 71 TOTAL ERROR — Transmit condition of RTP/PIP or RTN/PIN

| Setting<br>Signal | 1 : 5% | 2 : 10% | 3 : 15% | 4 : 20% |
|-------------------|--------|---------|---------|---------|
| MCF/PIP           | 0-2    | 0-4     | 0-7     | 0-9     |
| RTP/PIP           | 3-4    | 5-9     | 8-14    | 10-19   |
| RTN/PIN           | 5-     | 10-     | 15-     | 20-     |

**Note 3:** The default setting of parameters depends on the country's specifications or regulations. Print the Function Parameter List to confirm the default settings.

## 5.4 Test Mode 3 (Function Parameter List Printout)

A list of all Function Parameters can be printed with the following procedure.

| Step | Operation or Unit Condition   | LCD Display                          |
|------|---|--------------------------------------|
| 1    | Standby   | 12-JAN-1997 15:00<br>00%             |
| 2    | Press "FUNCTION" and then "7".  | SET MODE (1-6)<br>ENTER NO. OR V ^   |
| 3    | Press "MONITOR" four times, then press " * " .                        | TEST MODE<br>NO.=_ (ENTER 0-12)      |
| 4    | Press "3" and "START".  | * PRINTING *<br>FUNC. PARAMETER LIST |
| 5    | After printing completion, the unit returns to the display of step 3. | TEST MODE<br>NO.=_ (ENTER 0-12)      |
| 6    | Press "STOP" to return to standby.                                    | 12-JAN-1997 15:00<br>00%             |

## Function Parameter List (Sample)

\*\*\*\*\* -FUNCTION PARAMETER- \*\*\*\*\* DATE 12-JAN-1997 \*\*\*\*\* TIME 21:00 \*\*\* P.01

|                                   |   |
|-----------------------------------|---|
| 00 MON/TEL DIAL:[Monitor] Monitor | 50 RING DET MODE:[Normal] Normal          |
| 01 ALARM STATUS:[Timer] Timer     | 51 TONE DET MODE:[Normal] Normal          |
| 02 STOP COMM.JRNL:[On] On         | 52 PULSE RATE:[10pps] 10pps               |
| 03 CONTINUOUS POLL:[Off] Off      | 53 -----                                  |
| 04 NUMERIC ID SET:[On] On         | 54 -----                                  |
| 05 -----                          | 55 BUSY TONE CHECK:[On] On                |
| 06 ID DISPLAY:[Chara] Chara       | 56 -----                                  |
| 07 JNL COLUMN:[Station] Station   | 57 -----                                  |
| 08 MONITOR:[Off] Off              | 58 COMM.JRNL +IMAGE:[On] On               |
| 09 DC LOOP:[Off] Off              | 59 CONF.RCV REPORT:[On] On                |
| 10 TX LEVEL:[-9dBm] -9dBm         | 60 VERSION: UF-770 (NAM)V0.09             |
| 11 RX LEVEL:[-43dBm] -43dBm       | 61 TX/RX/PRT COUNTER:000050/000058/000074 |
| 12 DTMF LEVEL:[-6dBm] -6dBm       | 62 -----                                  |
| 13 G3 RX EQL:[On] On              | 63 -----                                  |
| 14 -----                          | 64 -----                                  |
| 15 -----                          | 65 -----                                  |
| 16 PRINT COUNTER:[Off] Off        | 66 -----                                  |
| 17 TX START:[14400bps ] 14400bps  | 67 -----                                  |
| 18 RX START:[14400bps ] 14400bps  | 68 -----                                  |
| 19 -----                          | 69 -----                                  |
| 20 ITU-T ECM:[On] On              | 70 LINE ERROR:[128] 128                   |
| 21 EP TONE:[Off] Off              | 71 TOTAL ERROR:[10%] 10%                  |
| 22 SIG. INTERVAL:[500ms] 500ms    | 72 CONTI. ERROR:[Off] Off                 |
| 23 TCF CHECK:[Normal] Normal      | 73 ERROR DETECT:[Rate] Rate               |
| 24 CED FREQ.: [2100Hz] 2100Hz     | 74 RTN RECEIVE:[Discon] Discon            |
| 25 COMM. START-UP:[1'st] 1'st     | 75 MH/MR/MMR:[MMR] MMR                    |
| 26 NON-STANDARD:[On] On           | 76 -----                                  |
| 27 SHORT PROTOCOL:[On] On         | 77 -----                                  |
| 28 ITU-T V33/17:[V33+17] V33+17   | 78 -----                                  |
| 29 REMOTE DIAG.: [On] On          | 79 -----                                  |
| 30 CED & 300bps:[75ms] 75ms       | 80 DOC TOP FEED:[19] 19 mm                |
| 31 RTC=EQL x 12:[Off] Off         | 81 DOC END FEED:[11] 11 mm                |
| 32 -----                          | 82 TX-JAM LENGTH:[2m] 2m                  |
| 33 -----                          | 83 -----                                  |
| 34 -----                          | 84 LINE AS NOPAPER:[Ring] Ring            |
| 35 -----                          | 85 -----                                  |
| 36 -----                          | 86 REDUCTION FINE:[On] On                 |
| 37 PROTOCOL DISPLAY:[Off] Off     | 87 DARKER LEVEL:[4] 4                     |
| 38 -----                          | 88 NORMAL LEVEL:[2] 2                     |
| 39 FLASH TIME:[50] 500ms          | 89 LIGHTER LEVEL:[0] 0                    |
| 40 -----                          | 90 -----                                  |
| 41 PAUSE TIME:[3] 3 sec           | 91 -----                                  |
| 42 -----                          | 92 SMOOTHING:[On] On                      |
| 43 REDIAL INTERVAL:[3] 3 min      | 93 POW. SAVE TIMER:[1] 1 min              |
| 44 REDIAL COUNT:[5] 5             | 94 -----                                  |
| 45 RING DET. COUNT:[2] 2          | 95 -----                                  |
| 46 ON-HOOK TIME:[5] 5 sec         | 96 -----                                  |
| 47 RESPONSE WAIT:[60] 60 sec      | 97 -----                                  |
| 48 -----                          | 98 -----                                  |
| 49 -----                          | 99 -----                                  |

Note: The power must be reset for the new parameter settings to take effect.

-PANASONIC-

\*\*\*\*\* -PANAFAX UF-770- \*\*\*\*\* -0123456789012345678- \*\*\*\*\*

- Note:**
1. [ ] - Factory Default
  2. The contents of the Function Parameter List may vary depending on the country's regulations.
  3. " \* " mark will be shown on the left side of number when setting was changed from default.

**5.5.1 Test Mode 4 (Binary Signal Generation) (UF-770)**

This test mode is used to check the binary signal output. Signals can be output to the line using the following procedure.

| Step | Operation or Unit Condition  | LCD Display                        |
|------|--|------------------------------------|
| 1    | Standby  | 12-JAN-1997 15:00<br>00%           |
| 2    | Press <b>"FUNCTION"</b> and then <b>"7"</b> .  | SET MODE (1-6)<br>ENTER NO. OR ∨ ^ |
| 3    | Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .                                 | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 4    | Press <b>"4"</b> and <b>"START"</b> .  | SIGNAL TEST<br>IDLE (ENTER 1-9)    |
| 5    | Enter the signal number (1-9) to select the binary signal.                                 | SIGNAL TEST<br>V21 300bps          |
| 6    | Press <b>"STOP"</b> to end the signal generation. To select another signal, repeat step 4. | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 7    | Press <b>"STOP"</b> to return to standby.  | 12-JAN-1997 15:00<br>00%           |

| Number | Signals         |
|--------|-----------------|
| 1      | V21 300 bps     |
| 2      | V33 14400 bps   |
| 3      | V33 12000 bps   |
| 4      | V17 TC9600 bps  |
| 5      | V17 TC7200 bps  |
| 6      | V29 9600 bps    |
| 7      | V29 7200 bps    |
| 8      | V27ter 4800 bps |
| 9      | V27ter 2400 bps |

**Binary Signal Table**

### 5.5.2 Test Mode 4 (Binary Signal Generation) (UF-880)

This test mode is used to check the binary signal output. Signals can be output to the line using the following procedure.

| Step | Operation or Unit Condition  | LCD Display                        |
|------|--|------------------------------------|
| 1    | Standby  | 12-JAN-1997 15:00<br>00%           |
| 2    | Press <b>"FUNCTION"</b> and then <b>"7"</b> .  | SET MODE (1-6)<br>ENTER NO. OR V ^ |
| 3    | Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .                                 | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 4    | Press <b>"4"</b> and <b>"START"</b> .  | SIGNAL TEST<br>ENTER (01-70) #_    |
| 5    | Enter the signal number (01-70) or <b>"V"</b> <b>"^"</b> to select the binary signal.      | ENTER (01-70) #_<br>V21 300bps     |
| 6    | Press <b>"STOP"</b> to end the signal generation. To select another signal, repeat step 4. | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 7    | Press <b>"STOP"</b> to return to standby.  | 12-JAN-1997 15:00<br>00%           |

| Number | Signals             | Number | Signals             | Number | Signals             | Number | Signals             |
|--------|---------------------|--------|---------------------|--------|---------------------|--------|---------------------|
| 01     | V21 300 bps         | 21     | V34 2800sr 9600bps  | 41     | V34 3200sr 7200bps  | 61     | V34 3429sr 26400bps |
| 02     | V33 14400 bps       | 22     | V34 2800sr 12000bps | 42     | V34 3200sr 9600bps  | 62     | V34 3429sr 28800bps |
| 03     | V33 12000 bps       | 23     | V34 2800sr 14400bps | 43     | V34 3200sr 12000bps | 63     | V34 3429sr 31200bps |
| 04     | V17 TC9600 bps      | 24     | V34 2800sr 16800bps | 44     | V34 3200sr 14400bps | 64     | V34 3429sr 33600bps |
| 05     | V17 TC7200 bps      | 25     | V34 2800sr 19200bps | 45     | V34 3200sr 16800bps | 65     | AN Sam              |
| 06     | V29 9600 bps        | 26     | V34 2800sr 21600bps | 46     | V34 3200sr 19200bps | 66     | CM                  |
| 07     | V29 7200 bps        | 27     | V34 2800sr 24000bps | 47     | V34 3200sr 21600bps | 67     | JM                  |
| 08     | V27ter 4800 bps     | 28     | V34 2800sr 26400bps | 48     | V34 3200sr 24000bps | 68     | INFO OC & TONE B    |
| 09     | V27ter 2400 bps     | 29     | V34 3000sr 4800bps  | 49     | V34 3200sr 26400bps | 69     | INFO OC & TONE A    |
| 10     | V34 2400sr 2400bps  | 30     | V34 3000sr 7200bps  | 50     | V34 3200sr 28800bps | 70     | PPh & AC & ALT      |
| 11     | V34 2400sr 4800bps  | 31     | V34 3000sr 9600bps  | 51     | V34 3200sr 31200bps |        |                     |
| 12     | V34 2400sr 7200bps  | 32     | V34 3000sr 12000bps | 52     | V34 3429sr 4800bps  |        |                     |
| 13     | V34 2400sr 9600bps  | 33     | V34 3000sr 14400bps | 53     | V34 3429sr 7200bps  |        |                     |
| 14     | V34 2400sr 12000bps | 34     | V34 3000sr 16800bps | 54     | V34 3429sr 9600bps  |        |                     |
| 15     | V34 2400sr 14400bps | 35     | V34 3000sr 19200bps | 55     | V34 3429sr 12000bps |        |                     |
| 16     | V34 2400sr 16800bps | 36     | V34 3000sr 21600bps | 56     | V34 3429sr 14400bps |        |                     |
| 17     | V34 2400sr 19200bps | 37     | V34 3000sr 24000bps | 57     | V34 3429sr 16800bps |        |                     |
| 18     | V34 2400sr 21600bps | 38     | V34 3000sr 26400bps | 58     | V34 3429sr 19200bps |        |                     |
| 19     | V34 2800sr 4800bps  | 39     | V34 3000sr 28800bps | 59     | V34 3429sr 21600bps |        |                     |
| 20     | V34 2800sr 7200bps  | 40     | V34 3200sr 4800bps  | 60     | V34 3429sr 24000bps |        |                     |

Binary Signal Table



## 5.6 Test Mode 5 (Tonal Signal Generation)

This test mode is used to check the tonal signal output. Signals can be output to the line using the following procedure.

| Step | Operation or Unit Condition  | LCD Display                        |
|------|--|------------------------------------|
| 1    | Standby  | 12-JAN-1997 15:00<br>00%           |
| 2    | Press <b>"FUNCTION"</b> and then <b>"7"</b> .  | SET MODE (1-6)<br>ENTER NO. OR ∨ ^ |
| 3    | Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .                                 | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 4    | Press <b>"5"</b> and <b>"START"</b> .  | TONAL TEST<br>IDLE (ENTER 1-5)     |
| 5    | Enter the signal number (1-5) to select the binary signal.                                 | TONAL TEST<br>1080Hz               |
| 6    | Press <b>"STOP"</b> to end the signal generation. To select another signal, repeat step 4. | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 7    | Press <b>"STOP"</b> to return to standby.  | 12-JAN-1997 15:00<br>00%           |

| Number | Signals |
|--------|---------|
| 1      | 1080 Hz |
| 2      | 1100 Hz |
| 3      | 1650 Hz |
| 4      | 1850 Hz |
| 5      | 2100 Hz |

**Tonal Signal Table**

## 5.7 Test Mode 6 (RAM Initialization)

Initializes RAM and restores Function Parameter to their default values.

**Note:** This operation should be performed when the unit is first installed.

| Step | Operation or Unit Condition  | LCD Display                              |
|------|--|--|
| 1    | Standby  | 12-JAN-1997 15:00<br>00%                 |
| 2    | Press <b>"FUNCTION"</b> and then <b>"7"</b> .                            | SET MODE (1-6)<br>ENTER NO. OR ∨ ∧       |
| 3    | Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .               | TEST MODE<br>NO.= (ENTER 0-12)           |
| 4    | Press <b>"6"</b> and <b>"START"</b> .                                    | * INITIALIZE RAM *<br>ENTER NO. or ∨ ∧   |
| 5    | Press <b>"∧"</b> or <b>"∨"</b> to select the initialize mode. (See Note) | * INITIALIZE RAM *<br>LOGO/ID/PSWD CLEAR |
| 6    | Press <b>"START"</b> .   | * COMPLETED *<br>LOGO/ID/PSWD CLEAR      |
| 7    | Press <b>"STOP"</b> twice to return to standby.                          | 12-JAN-1997 15:00<br>00%                 |

**Note:** If ∨ or ∧ is pressed instead of selecting a number, the unit immediately starts the RAM initialization after the number is pressed.

| No. | Initialize Mode    | Description  |
|-----|--------------------|--|
| 99  | SHIPMENT SET (A)   | Delete all setting information, except parameter no. 80 and 81, then set default values.     |
| 98  | SHIPMENT SET (B)   | Delete all setting information, except parameter no. 61, 80 and 81, then set default values. |
| 1#  | MANUFACTURE SET    | Factory use only. <b>DO NOT USE IN THE FIELD.</b>  |
| 19  | ALL JOB CLEAR      | All jobs stored in DRAM will be cleared.   |
| 14  | PROGRAM DIAL CLEAR | Program keys will be cleared.  |
| 13  | ABBR. DIAL CLEAR   | One-touch/ABBR. No. will be cleared.   |
| 12  | JOURNAL CLEAR      | Journal contents will be cleared.  |
| *   | PARAMETER INITIAL  | Fax Parameter and Function Parameter will be restored to default values.                     |
| 10  | LOGO/ID/PSWD CLEAR | Logo/ID/Polling Password will be cleared.  |

**RAM Initialization Table**

## 5.8 Test Mode 7 (DTMF Signal Generation)

This test mode is used to check the DTMF (Dual Tone Multi Frequency) signal output. The DTMF signal can be generated using the following procedure.

| Step | Operation or Unit Condition   | LCD Display                        |
|------|---|------------------------------------|
| 1    | Standby   | 12-JAN-1997 15:00<br>00%           |
| 2    | Press "FUNCTION" and then "7".  | SET MODE (1-6)<br>ENTER NO. OR ∨ ^ |
| 3    | Press "MONITOR" four times, then press " * ".                                       | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 4    | Press "7" and "START".  | DTMF TEST:<br>(1:SINGLE 2:DUAL)    |
| 5a   | Press "1" for DTMF Single Tone Generation.  | DTMF TEST:<br>ENTER (0-7)          |
| 6a   | Enter the signal number (0-7) to select the DTMF single tone.                       | DTMF TEST: 697Hz<br>ENTER (0-7)    |
| 5b   | Press "2" for DTMF Dual Tone Generation.  | DTMF TEST:<br>ENTER (0-#)          |
| 6b   | Enter the signal number (0-#) to select the DTMF dual tone.                         | DTMF TEST: (0)<br>ENTER (0-#)      |
| 7    | Press "STOP" to end the signal generation. To select another signal, repeat step 4. | TEST MODE<br>NO.=_ (ENTER 0-12)    |
| 8    | Press "STOP" to return to standby.  | 12-JAN-1997 15:00<br>00%           |

| Number | DTMF Single Tones |
|--------|-------------------|
| 0      | 697 Hz            |
| 1      | 770 Hz            |
| 2      | 852 Hz            |
| 3      | 941 Hz            |
| 4      | 1209 Hz           |
| 5      | 1336 Hz           |
| 6      | 1477 Hz           |
| 7      | 1633 Hz           |

DTMF Single Tone Table

| Number | DTMF Dual Tones  |
|--------|------------------|
| 0      | 941 Hz & 1336 Hz |
| 1      | 697 Hz & 1209 Hz |
| 2      | 697 Hz & 1336 Hz |
| 3      | 697 Hz & 1477 Hz |
| 4      | 770 Hz & 1209 Hz |
| 5      | 770 Hz & 1336 Hz |
| 6      | 770 Hz & 1477 Hz |
| 7      | 852 Hz & 1209 Hz |
| 8      | 852 Hz & 1336 Hz |
| 9      | 852 Hz & 1477 Hz |
| *      | 941 Hz & 1209 Hz |
| #      | 941 Hz & 1477 Hz |

DTMF Dual Tone Table

## 5.9 Test Mode 9 (RAM Test)


This test mode is used to check RAM by writing and reading the document memory.

| Step | Operation or Unit Condition   | LCD Display                             |
|------|---|---|
| 1    | Standby   | 12-JAN-1997 15:00<br>00%                |
| 2    | Press <b>"FUNCTION"</b> and then <b>"7"</b> .                                     | SET MODE (1-6)<br>ENTER NO. OR V ^      |
| 3    | Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .                        | TEST MODE<br>NO.=_ (ENTER 0-12)         |
| 4    | Press <b>"9"</b> and <b>"START"</b> .   | * D-RAM CHECK NOW *                     |
| 5a   | <b>"COMPLETED"</b> displays when the writing and reading of RAM data is finished. | * COMPLETED *                           |
| 5b   | If any data error exists, the display shows the segment and data.                 | SYSTEM D-RAM FAULT<br>1C00:1000 RFF-WFE |
| 6    | Press <b>"STOP"</b> to return to standby.   | 12-JAN-1997 15:00<br>00%                |

**Note:** This test should be performed after deleting all files.

### 5.10 Test Mode 10 (LED/LCD/CCD Test)

**This test mode is used to check the LEDs, LCD and CCD. Use the following procedure.**

| Step | Operation or Unit Condition   | LCD Display   |
|------|---|---|
| 1    | Standby   | 12-JAN-1997 15:00<br>00%  |
| 2    | Press " <b>FUNCTION</b> " and then " <b>7</b> ".  | SET MODE (1-6)<br>ENTER NO. OR v ^  |
| 3    | Press " <b>MONITOR</b> " four times, then press " * ".  | TEST MODE<br>NO.=_ (ENTER 0-12)   |
| 4    | Press " <b>10</b> " and " <b>START</b> ".<br>1) LCDs display as shown at right.<br>2) All LEDs will light.<br>3) The scanner will be active. (Used for CCD test.) | <LED&LCD-LIGHT-TEST><br>LIGHTING-TEST-NOW-!!<br> |
| 5    | Press " <b>STOP</b> " twice to return to standby.   | 12-JAN-1997 15:00<br>00%  |

## 5.11 Test Mode 12 (LBP Service Mode)

Use the following procedure to change printer parameter.

| Step | Operation or Unit Condition  | LCD Display                                   |
|------|--|---|
| 1    | Standby  | 12-JAN-1997 15:00<br>00%                      |
| 2    | Press <b>"FUNCTION"</b> and then <b>"7"</b> .  | SET MODE (1-6)<br>ENTER NO. OR √ ^            |
| 3    | Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .   | TEST MODE<br>NO.=_ (ENTER 0-12)               |
| 4    | Press <b>"12"</b> and <b>"START"</b> .   | LBP SERVICE MODE: ■<br>1: PARA 2: INFO 3: C&C |
| 5    | Enter <b>"1"</b> for setting printer parameter.<br>Enter <b>"2"</b> for getting printer information.<br>Enter <b>"3"</b> for printing Printer Report.<br>EX: Enter <b>"1"</b> for setting printer parameter. | LBP PARAMETER SET<br>ENTER NO. (1-7) # ■      |
| 6    | Enter <b>"7"</b> . Then enter the number of pages.<br>EX: Enter <b>"50"</b> and <b>"START"</b> .   | OUT OF TONER : 50<br>ENTER 001-254 (page)     |
| 7    | Repeat step 5 through 6 to require operation, or press <b>"STOP"</b> to return to standby.   | 12-JAN-1997 15:00<br>00%                      |

This test mode is used to change printer parameters and refers the printer information.

| Sub-Code | Parameter Name | Description  |
|----------|----------------|--|
| 1        | 1              | Not used   |
|          | 2              | Not used   |
|          | 3              | Not used   |
|          | 4              | Not used   |
|          | 5              | Printer Counter<br>Displays and resets the printer counter   |
|          | 6              | LBP Fuser Reset<br>Clears the LBP fuser error.   |
|          | 7              | Out of Toner<br>Sets the number of pages to print after low toner is detected  |
| 2        | 1              | LBP ID No.<br>Identifies the unit's LBP ID No.   |
|          | 2              | LBP ROM Version<br>Displays the LBP's ROM version  |
|          | 3              | LBP Print Available<br>Shows the remaining number of allowable printable pages after low toner has been detected (Counter Only)  |
| 3        | 1              | Service Alert Tel #<br>Entering a destination telephone number of the Service Alert Report. Max. 36 digits. (i.e. 201 111 2222)  |
|          | 2              | Maint. Alert Tel #<br>Entering a destination telephone number of the Maintenance Alert Report. Max 36 digits (i.e. 201 111 3333) |
|          | 3              | Customer ID<br>Entering a Customer ID code of the Report. Max. 16 digits (i.e. Panafax Corp.)                                    |
|          | 4              | Printer Report<br>Prints the Printer Report.   |

5.11.1 Printer Report

\*\*\*\*\*-PRINTER REPORT-\*\*\*\*\* DATE 12-JAN-1997 \*\*\*\*\* TIME 11:49\*\*\*\*\*

LAST PRINT ERROR : JAN-12 10:59 NO. 001-63

CUSTOMER ID :

FAX ROM VERSION : UF-XXX (NAM)V0.09

LBP ROM VERSION : 00.38

TX COUNTER : 000000

RX COUNTER : 000000

PRT COUNTER : 000199

Information Code (Refer to Sect. 4.7)

PRINT ERROR : 12-JAN 10:59 NO.001-63

12-JAN 10:35 NO.001-63

Printer Error Code

\*\*\*\*\* - \*\*\*\*\* - \*\*\*\*\*

## 5.11.2 Printer Error Code Table

| Error Code | Description of Problems   | Cause  |
|------------|---|--|
| 00         | No problem detected   |  |
| 10         | The Timing Sensor turned OFF before a certain period of time.                                       | 1. Recording Paper Jam.<br>2. Timing Sensor defective.<br>3. Incorrect page size setting.                                |
| 11         | Timing Sensor did not turn ON within a certain period of time. (Original Cassette Feeder)           | 1. Recording Paper misfeeding, Paper Feed Roller defective.<br>2. Drive Clutch defective.<br>3. Timing Sensor defective. |
| 12         | Timing Sensor did not turn ON within a certain period of time. (250 sheet Optional Cassette Feeder) | 1. Recording Paper misfeeding, Paper Feed Roller defective.<br>2. Drive Clutch defective.<br>3. Timing Sensor defective. |
| 13         | Timing Sensor did not turn ON within a certain period of time. (500 sheet Optional Cassette Feeder) | 1. Recording Paper misfeeding, Paper Feed Roller defective.<br>2. Drive Clutch defective.<br>3. Timing Sensor defective. |
| 14         | Timing Sensor did not turn OFF within a certain period of time.                                     | 1. Recording Paper Jam.<br>2. Timing Sensor defective.<br>3. Incorrect page size setting.                                |
| 15         | Paper Eject Sensor did not turn ON within a certain period of time.                                 | 1. Recording Paper Jam.<br>2. Paper Eject Sensor defective.  |
| 16         | Paper Eject Sensor did not turn OFF within a certain period of time.                                | 1. Recording Paper Jam.<br>2. Paper Eject Sensor defective.  |
| 17         | Timing Sensor detected paper while initializing the unit.   | 1. Recording paper jammed in the unit.<br>2. Timing Sensor defective.  |
| 18         | Paper Eject Sensor detected paper while initializing the unit.                                      | 1. Recording paper jammed in the unit.<br>2. Paper Eject Sensor defective.   |
| 1B         | Paper Cassette was slid out while Recording Paper Feeding.  | 1. Recording Paper Jam.  |
| 22         | The temperature of the Fuser Roller remained low even after the circuit was activated.              | 1. Fuser Unit defective.<br>2. FCB PCB defective.<br>3. LVPS defective.  |
| 23         | Abnormally high Fuser Roller temperature after the circuit was de-activated.                        | 1. Fuser Unit defective.<br>2. FCB PCB defective.<br>3. LVPS defective.  |
| 24         | The temperature of the Fuser Roller was not controlled within a certain margin.                     | 1. Fuser Unit defective.<br>2. FCB PCB defective.<br>3. LVPS defective.  |
| 25         | Thermistor open.  | 1. Thermistor defective (Fuser Unit).<br>2. FCB PCB defective.   |
| 26         | Thermostat detected temperature over 200°C.   | 1. Thermostat defective (Fuser Unit).<br>2. FCB PCB defective.<br>3. LVPS defective.                                     |
| 31         | The Polygon Motor did not reach a constant speed of 5,000 rpm within a certain period of time.      | 1. LSU defective.  |
| 32         | The Polygon Motor did not maintain a constant speed of 5,000 rpm.                                   | 1. LSU defective.  |
| 36         | HSYNC signal abnormal.  | 1. LSU defective.<br>2. FCB PCB defective.   |
| 41         | Fan does not rotate.  | 1. Fan defective.<br>2. FCB PCB defective.   |
| 54         | A/D Converter error.  | 1. FCB PCB defective.  |
| 61         | Unit detected "No Toner Cartridge".   | 1. Toner Cartridge not installed.<br>2. Toner Sensor defective.  |
| 63         | Unit detected "Printer Door Open".  | 1. Printer door is not closed.<br>2. ILS PCB defective.  |
| 64         | Unit detected "No Cassette".  | 1. Cassette not installed or partially open.<br>2. Cassette Sensor defective.  |
| 65         | Unit detected "Out of Paper".   | 1. Cassette(s) ran out of receiving paper.<br>2. Paper Detect Sensor defective.  |
| 68         | Jam Access Cover Sensor of 250 sheet Cassette opened.   | 1. Jam Access Cover Sensor of 250 sheet Cassette defective.  |
| 69         | Jam Access Cover Sensor of 500 sheet Cassette opened.   | 1. Jam Access Cover Sensor of 250 sheet Cassette defective.  |
| 71         | Interface error occurs with the 500 sheet optional cassette.  | 1. CN101 or 126 disconnect.<br>2. CST3 PCB defective.  |

**Note :** If an 021 series Error Code occurs, 021-25 (Thermistor Open) or 021-26 (Thermistor detected temperature over 200°C), a pre-programmed recovery safety software is activated to protect the unit and the service personnel during abnormal increase in temperature.

Once activated, this program is downloaded into the FCB PC Board's SRAM, disabling the Fuser Lamp and preventing it from turning ON again.

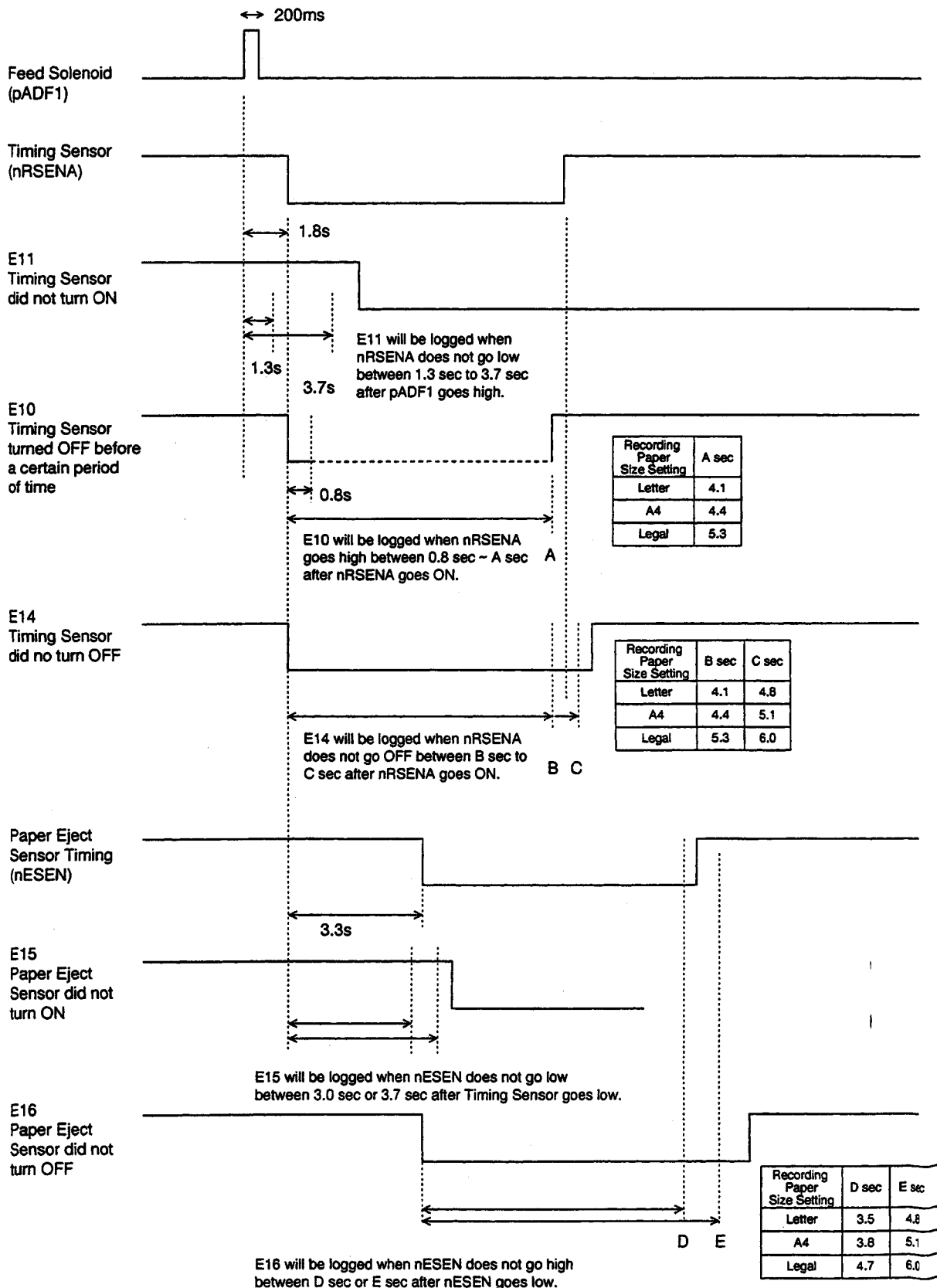
In order to reset this circuit, please follow the procedure below.

- 1) Reset the LBP Fuser by using Test Mode 12-1-6 (Section 5.11) and Power OFF/ON.
- 2) Replace the Thermistor or Fuser Unit. If the problem persists,
- 3) Replace the FCB PCB.

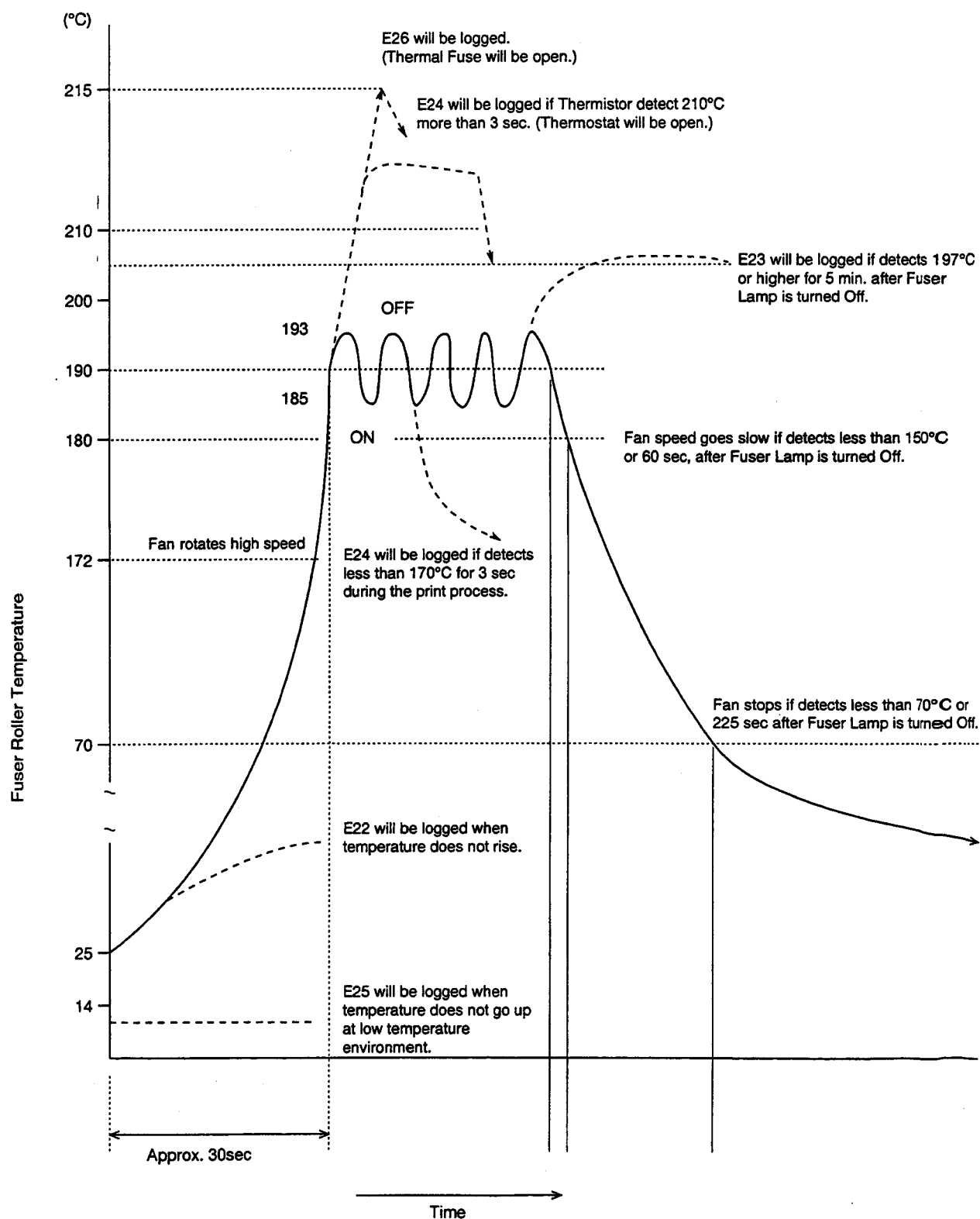


### 5.11.3 Printer Error Detail Explanation

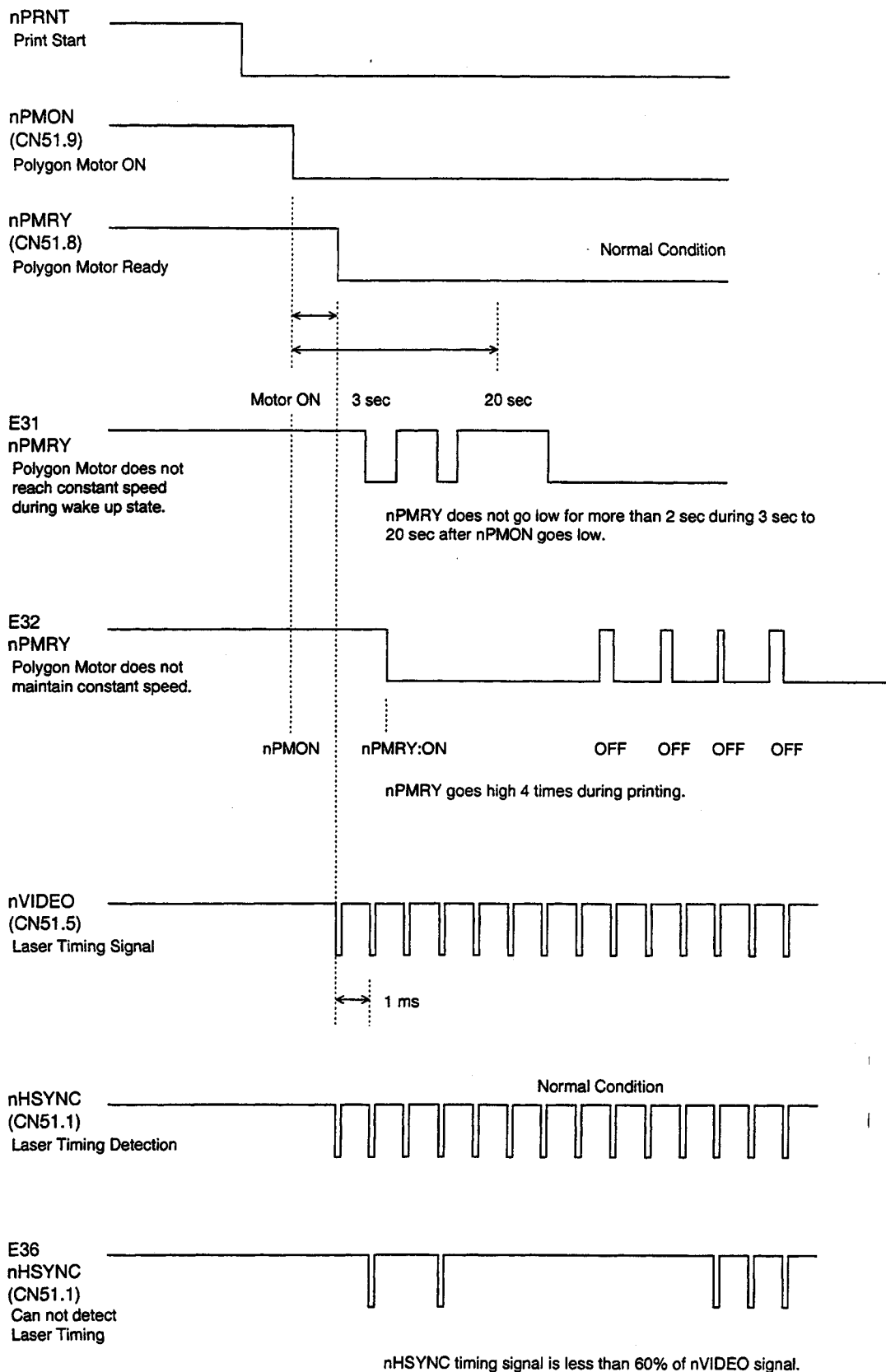
#### Recording Paper Jam Detection



## Fuser Error Detection

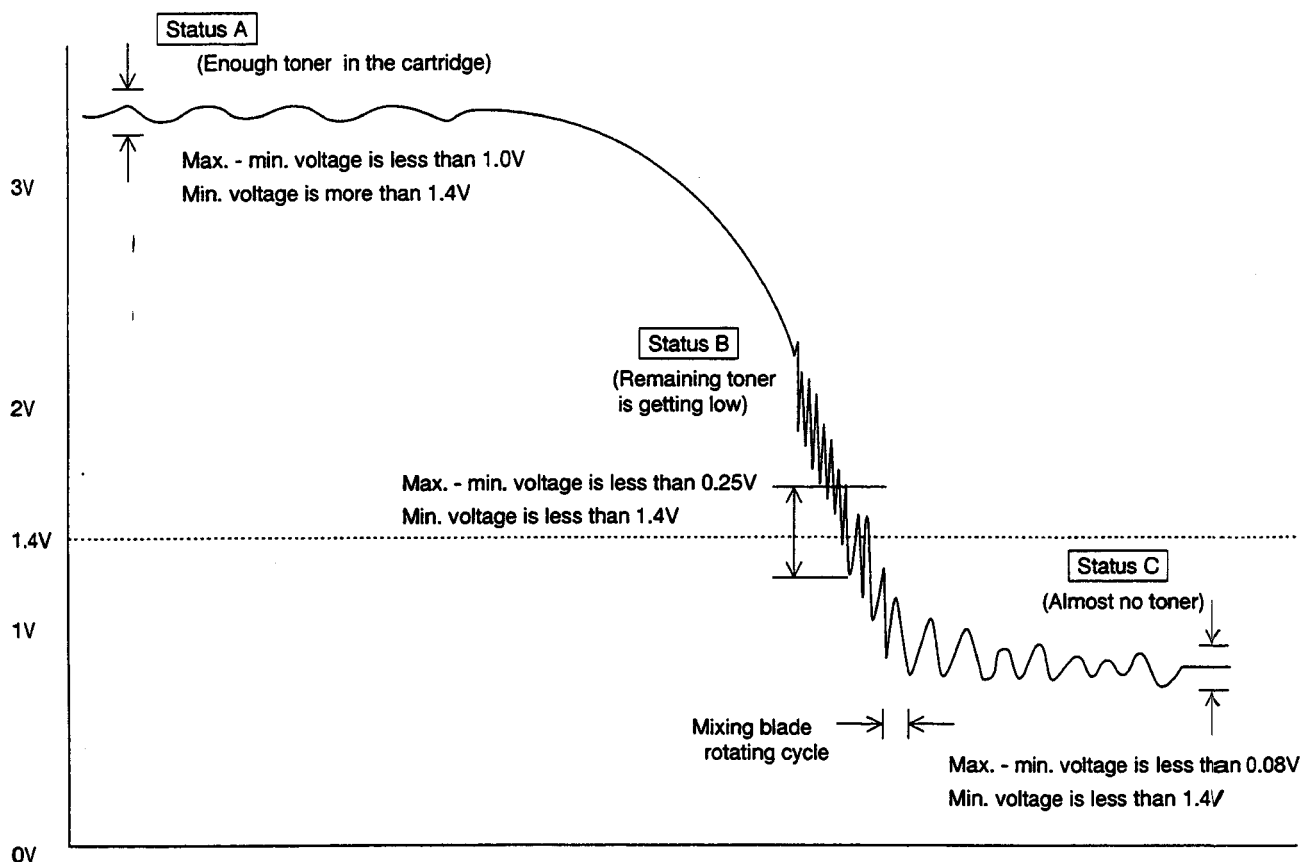


# LSU Error Detection



## Out of Toner Detection

## Toner Sensor Output Signal



Toner Sensor output may change when the mixing blade passes above the Toner Sensor. Therefore the output signal has a max. voltage and min. voltage during mixing blade rotation cycle (6 sec).

## E043

If UF-XXX detects Status B 10 times during printing, the machine recognizes that the remaining toner is low and the display shows "REPLACE TONER CARTRIDGE".

## E041

After detecting E043 and the LBP Print Available Counter Value is reached "0", the unit logs E041 (OUT OF TONER).

## E45

When the unit detects Status C when power is On, the unit logs E045 and displays "NO CARTRIDGE". The unit will recover when detecting Status A after replacing with a new toner cartridge.

**Note**

## **Chapter 6**

# **System Description**

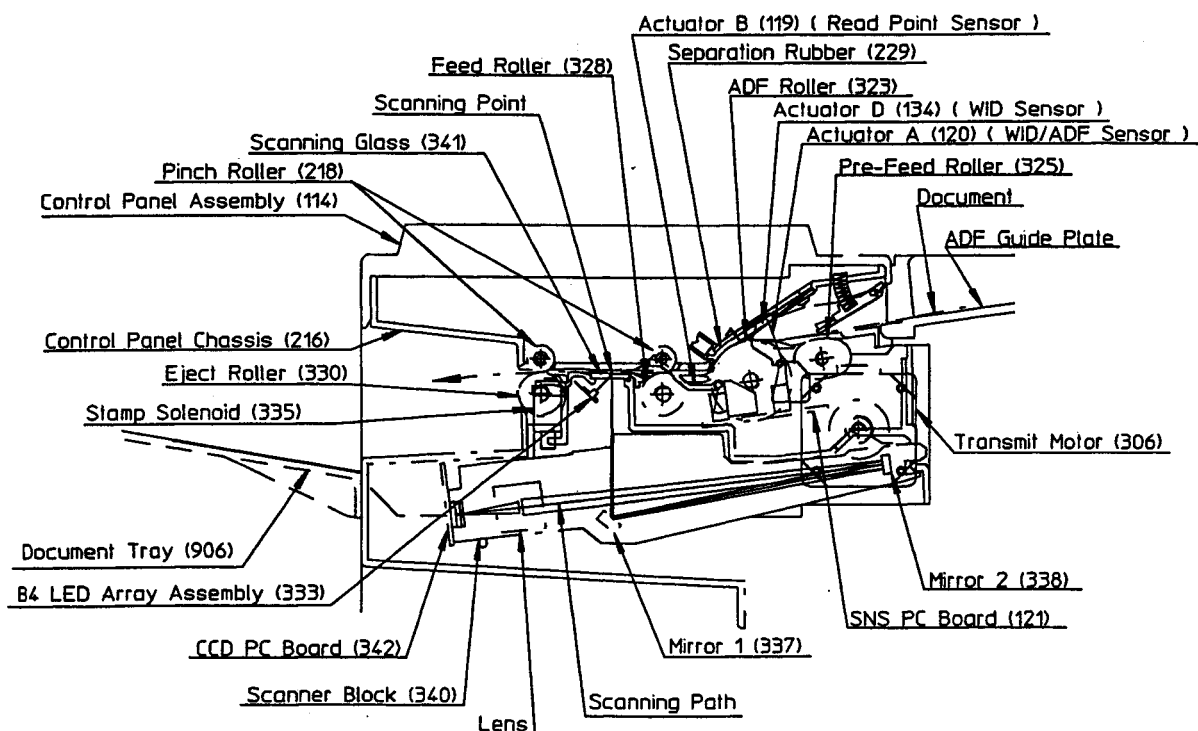
## 6.1 Mechanical Operation

The mechanical units are installed in a single unit body. The mechanical block consists of the following mechanisms.

Transmit Mechanism  
Receive Mechanism  
Covers and Enclosures  
Control Panel

### 6.1.1 Transmit Mechanism

The Transmit Mechanism consists of components which feed, scan and eject documents, as well as send signals. These components and their functions are as follows:



### **ADF Mechanism**

The ADF (Automatic Document Feeder) automatically feeds paper into the unit, and consists of the Pre-feed Roller, ADF Roller and Separation Rubber. Each document is placed face-down on the ADF Guide Plate before being fed into the unit.

- The **Pre-feed Roller** (325) moves the bottom document to the ADF Roller.
- The **ADF Roller** (323) feeds individual pages into the scanning area.
- The **Separation Rubber** (229) separates documents placed on the ADF Guide Plate, preventing multiple feeding.

### **B4 LED Array (333)**

The UF-770/880 has one LED Array, used as a light source to illuminate the document. The LED Array turns ON when the Read Point Sensor is activated by the document leading edge.

### **Transmit Guide Unit**

The Transmit Guide Unit is an auxiliary part used for feeding and ejecting documents. It consists of the Transmit Guide (117), Control Panel Chasis (216), Feed Roller (328), Eject Roller (330), and Pinch Roller (218). This unit also provides the white scanning area and serves as a base for electronic white reference.

### **Transmit Mechanism Drive System**

This system feeds documents through the transmitting mechanism, and consists of rollers, gears, and a stepper motor.

- The **Transmit Motor** (306), a stepper motor, controlled by the CPU, drives the Pre-Feed Roller, ADF Roller, Feed Roller and Eject Roller, with the speed based on the density of the picture information.
- The **Feed Roller** (328) feeds the document to the scanning point.
- The **Eject Roller** (330) feeds and ejects the document out of the machine.

### **Transmit Mechanism Sensors [SNS PCB (121)]**

The **ADF Sensor/WID Sensor** (134) performs two functions. The ADF Sensor (PC3), activated by Actuator A (120), detects the presence of documents on the ADF Tray and multiple pages. The WID (A4/B4 size document width) Sensor (PC1), activated by Actuator D (134), detects documents that are wider than 9.1 inches (232 mm). The size of the reproduced copy is reduced when the receiver is capable of printing only letter and A4 size. The size remains the same when the receiver is capable of printing B4 size copies. Width reduction is also in effect in the copy mode.

The **RP (Read Point) Sensor** (PC2), activated by Actuator B (119), detects the lead and trail edges of the document, controlling the reading position. The CPU determines that a document is jammed if Actuator B is not tripped within a specified time after the ADF Roller starts feeding, and disengages the Pre-feed and ADF Rollers by reversing the Transmit Motor direction.

The **ADF Door Sensor** (PC1), activated by Actuator C (118), halts all scanning operations when the Control Panel Unit is open.

### **Verification Stamp Unit**

The Verification Stamp Unit stamps a ⊗ mark on the front of the document after the document is successfully transmitted or stored. It consists of the Stamp Head (334) and Stamp Solenoid (335).



### Scanner Block (340)

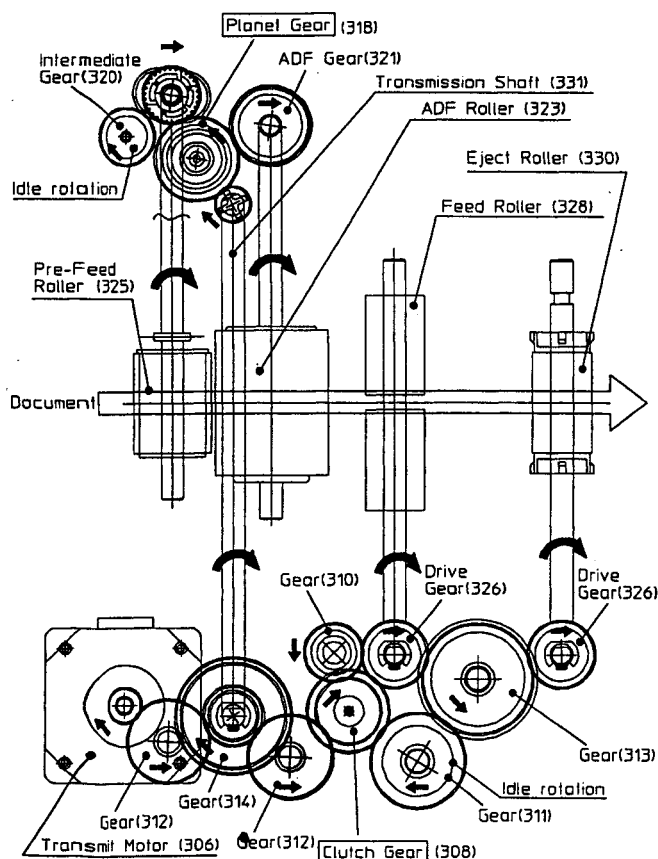
The Scanner Block consists of two mirrors, a lens, and a CCD PC Board.

- The mirrors, **Mirror 1** (337) and **Mirror 2** (338), reflect image information, in the form of light, through the Lens.
- The **Lens** focuses the image information and passes it to the CCD.
- The **CCD**, mounted on the CCD PC Board, converts the image information into an electronic signal.

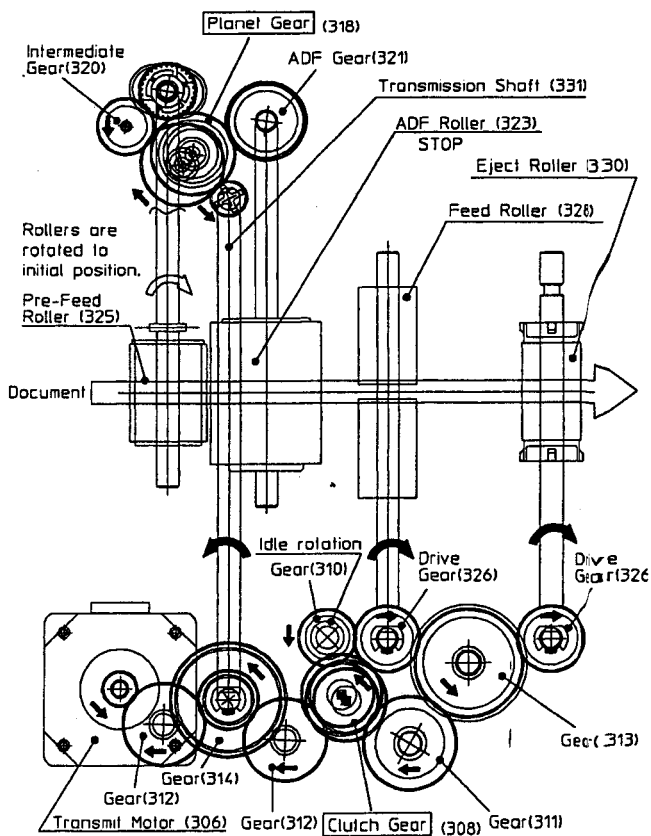
### Drive System

The Drive System uses a Planetary Gear System to provide drive to the Pre-feed Roller and ADF Roller. A planetary gear system does not have a fixed position; it shifts its position according to the rotational torque of the gear, together with the rotation of the planet gear. When the Read Point Sensor is activated, and the document is scanned, the Pre-feed Roller and the ADF Roller drive are disengaged. The Drive System is shown below.

Operation Specification : 1).Document Feed Operation  
2).Document Eject Operation

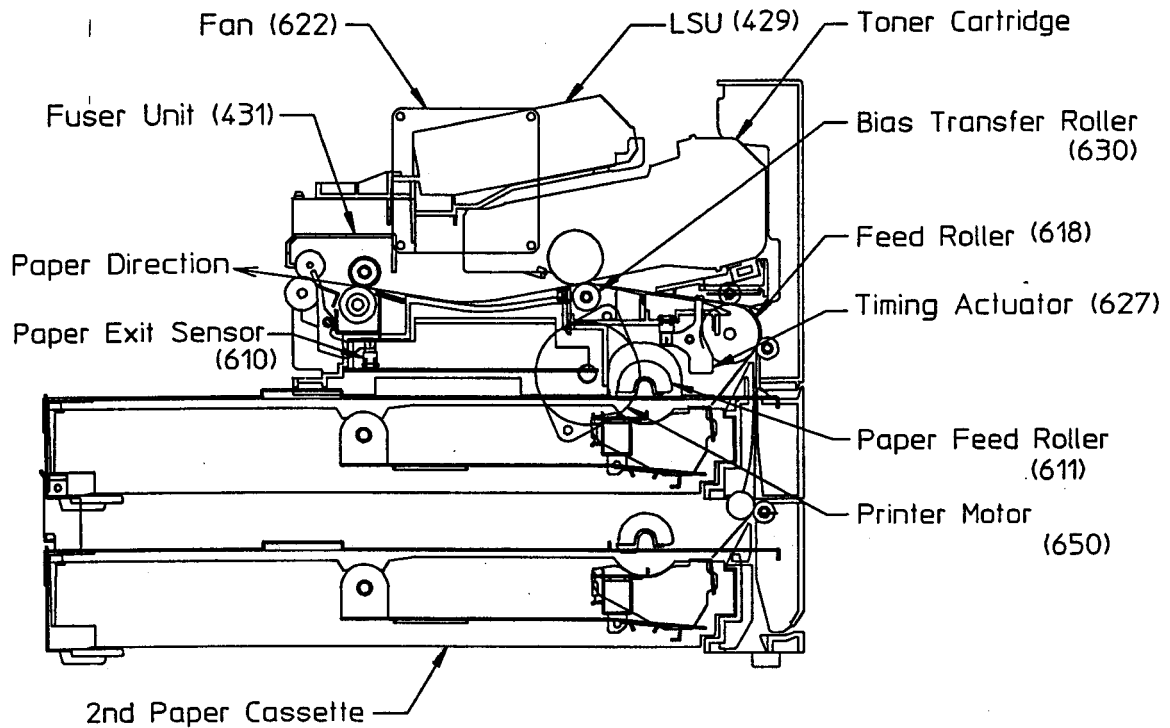


Operation Specification : 1).Power ON Initial Operation  
2).Scanning Operation



**6.1.2 Receive Mechanism**

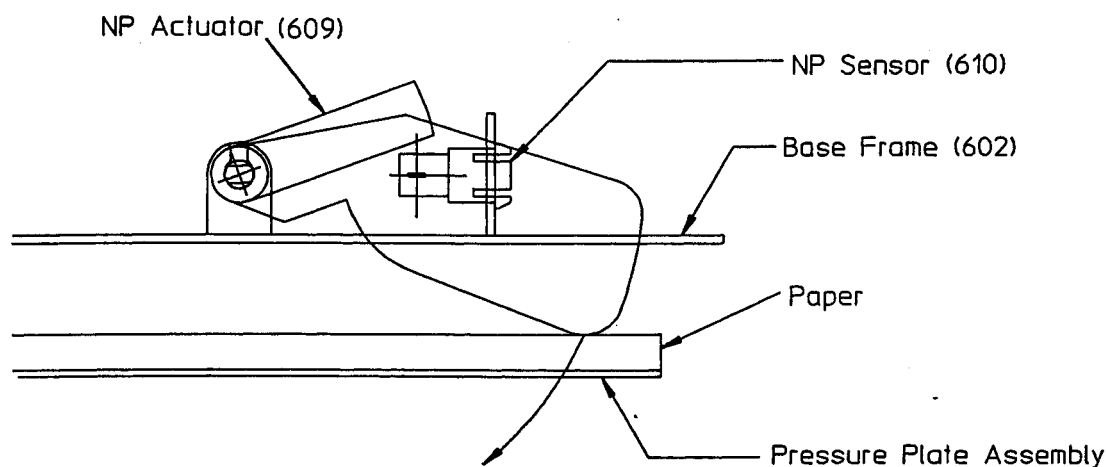
The Receive Mechanism consists of the Laser Unit (LSU), OPC (Organic Photo Conductor) Drum, and various other parts which ensure the normal feeding of recording paper. These components and their functions are as follows:



**Paper Feed Units No. 1 and 2**

Paper Feeder Unit No. 2 is optional.

**Cassette Paper Detector operation**



The NP Actuators attached to the Paper Feed Blocks No. 1 and 2 determine if there is paper in the cassette. The paper in the cassette lifts up the NP Actuator, allowing the light from the LED to actuate the phototransistor. The output signal level (nPCHK1 or nPCHK2) is shown in the table below.

|                        | Paper in cassette | No paper |
|------------------------|-------------------|----------|
| Paper Feed Block No. 1 | L                 | H        |
| Paper Feed Block No. 2 | L                 | H        |

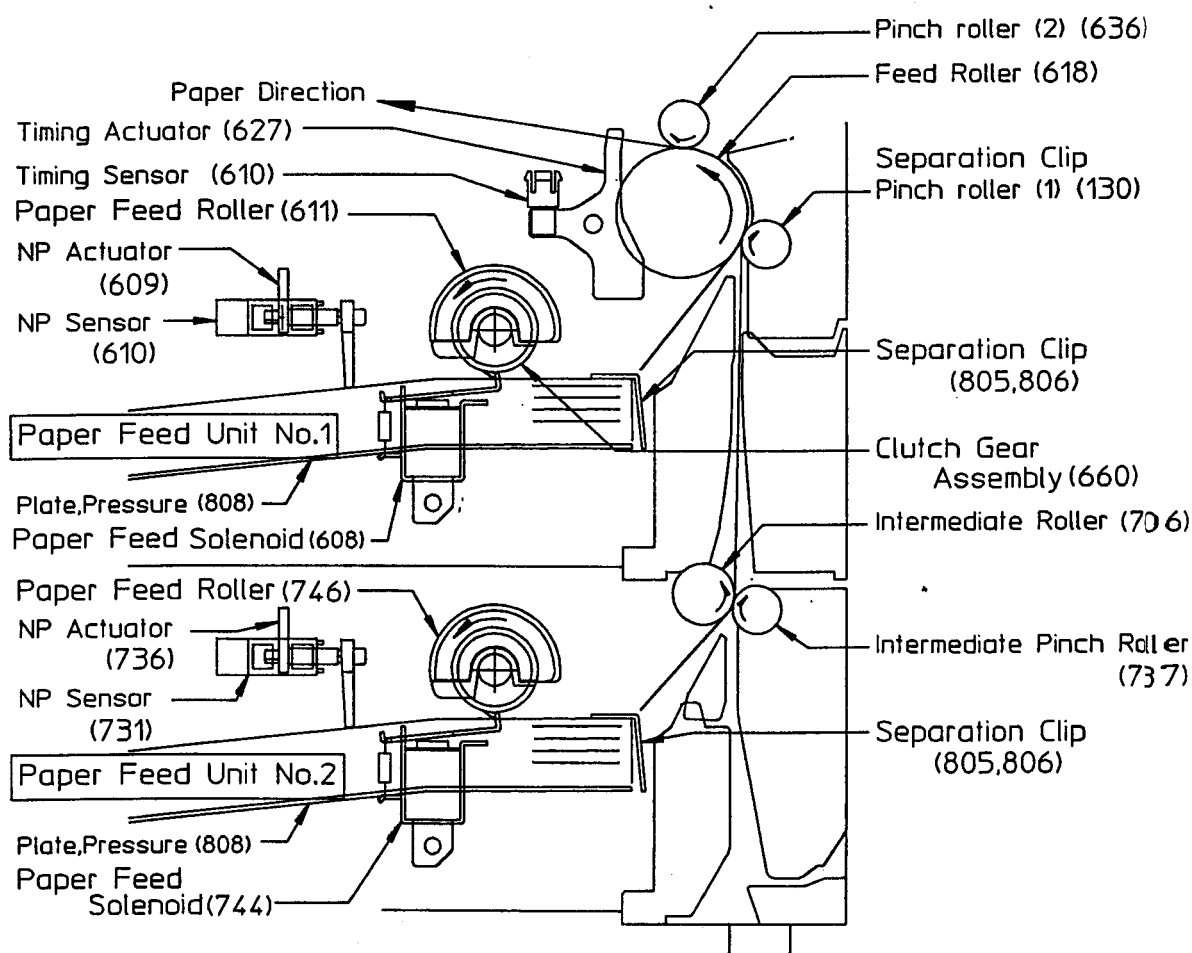
**Paper Feed Unit No. 1 Operation**

- (1) The printing operation begins when the nPRT (Print Request) output signal level goes Low. The Printer Motor (650) is initialized.
- (2) The Paper Feed Solenoid (608) is energized for a specified period of time and turned ON. This activates the Paper Feed Roller (611), which rotates one revolution. The paper is separated into individual sheets by the Paper Separation Arm and transported to the Feed Roller (618).
- (3) After one revolution the Paper Feed Roller stops, releasing the paper. The Feed Roller transports the paper to the drum area.
- (4) The actual printing process starts at a specified time after the Timing Actuator (627) is activated and stops at a specified period of time after the trailing edge clears the Timing Actuator.

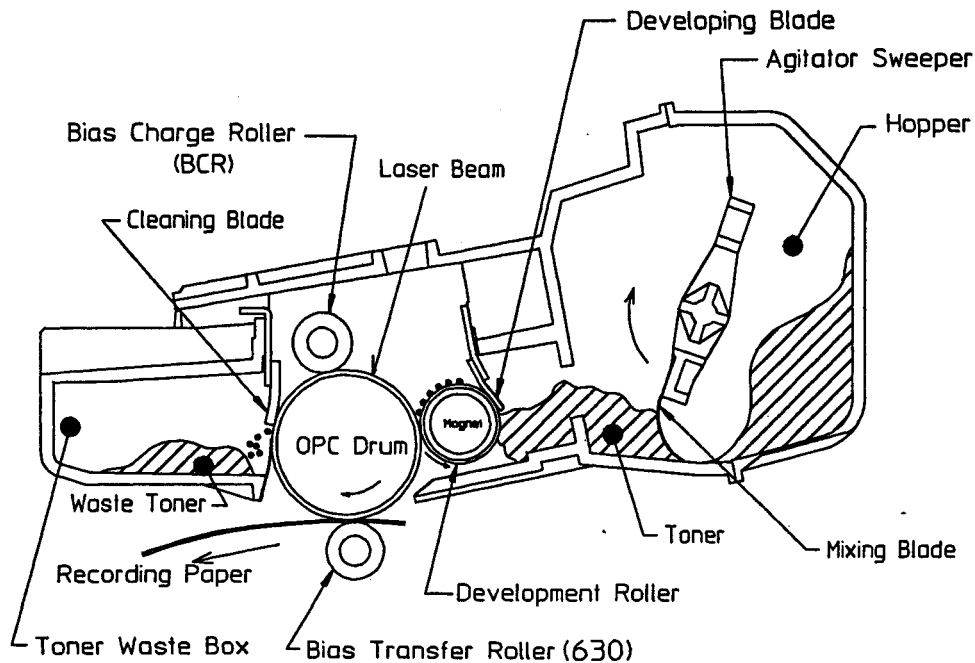
### Paper Feed Unit No. 2 (Optional) Operation

The First Paper Feed Unit always takes priority. The Second Paper Feed Unit becomes operational only when the first cassette runs out of paper and the NP Sensor is deactivated, causing the nPCHK1 output signal level to go High.

- (1) The printing operation begins when the nPRT (Print Request) output signal level goes Low. The Printer Motor (650) is initialized.
- (2) The Paper Feed Solenoid (744) is energized for a specified period of time and turned ON. This activates the Paper Feed Roller (746), which rotates one revolution. The paper is separated into individual sheets by the Paper Separation Arm and transported to the Intermediate Roller (706).
- (3) After one revolution the Paper Feed Roller stops, releasing the paper. The Intermediate Roller and the Feed Roller (618) transports the paper to the drum area.
- (4) The actual printing process starts at a specified time after the Timing Actuator (627) is activated and stops at a specified period of time after the trailing edge clears the Timing Actuator.



### 6.1.3 Printing Process Operation



#### Charge

In the dark, the Bias Charge Roller (BCR) applies a high, uniform negative charge to the surface of the OPC Drum. The surface potential is approximately -610 VDC and remains because the drum has a high electrical resistance in the dark.

#### Exposure

A portion of the laser beam is deflected to the timing sensor [Beam Detection (BD) Sensor], which controls the start timing of scanning on the OPC Drum. The CPU also uses the timing sensor to detect abnormal signals. The light beam from the laser diode is modulated by the digital signal (nVIDEO) and converted to parallel light waves by the collimator lens. The beam is then directed to the rotating polygon mirror, where it is reflected to the f- $\theta$  lens and then focused onto the OPC Drum surface. The laser beam moves across the surface of the OPC Drum in the scanning direction. Where the laser beam is applied, the negative charge on the drum dissipates, and where the laser is not applied, the negative charge remains. This action forms a latent, electrostatic image on the OPC Drum, corresponding to the original image.

#### Development

This development process uses a conventional method, where toner coats a Development Roller and transfers to the latent image on the OPC Drum.

In the Toner Cartridge, the (mono-component) toner is negatively charged by the friction between the rotating Development Roller (Mag Roller) and the Developing Blade. This combination and the rotation of the Mixing Blade transfers the toner from the reservoir and forms a brush effect on the Mag Roller. Where the magnetic brush lightly touches the OPC Drum, the negatively charged toner is attracted to the latent image on the drum, forming a mirror image of the original on the drum. Any remaining toner is removed from the Mag Roller by the Developing Blade and is recycled back into the toner reservoir. A bias voltage of approximately 1.5 kVACp-p at 1.7 kHz, riding on a -500 VDC bias is applied to the magnetic brush to achieve maximum print quality.

**Transfer and Separation**

As the paper is fed between the OPC Drum and the Bias Transfer Roller (BTR) (630), a positive charge of approximately +600 VAC (+3 $\mu$ A steady current) is applied to the backside of the paper by the BTR. The toner particles are attracted away from the drum towards the surface of the paper. During cleaning, the BTR is charged to approximately -800 VDC to repel toner on the OPC Drum and prevent toner from being attracted to the BTR. After transfer has occurred, the paper passes over the Discharge Plate (617) in the Transmit Guide (117), reducing the difference of potential between the OPC Drum and the paper. The stiffness of the paper causes the paper to separate from the drum.

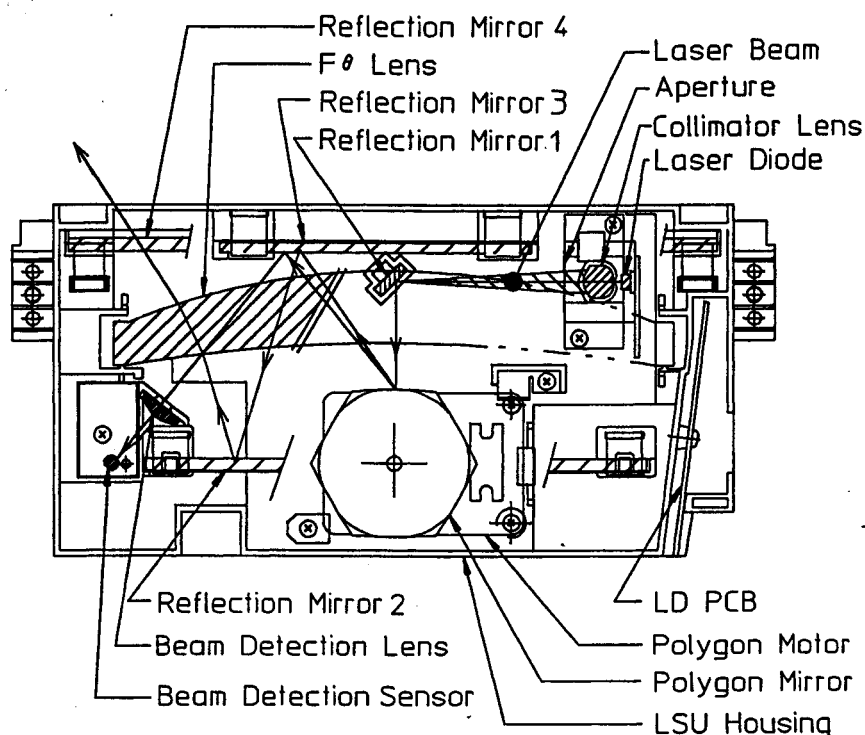
**Cleaning**

After transfer, some toner may remain on the surface of the OPC Drum. A Cleaning Blade scrapes the OPC Drum surface, and the removed toner is moved into the Toner Waste Box, inside the Toner Cartridge.

**Fusing**

After separation, the paper passes through the Fuser Rollers and is subjected to heat and pressure in the Fuser Unit Assembly (431). Pressure between the Fuser Roller (414) [heated internally by the Fuser Lamp (408) to approximately 190°C ( $\pm$ 10°C) (or 374°F)] and Pressure Roller (409) fuses or bonds the toner into the paper.

## Laser Unit



### Laser

A 5 mW Laser Diode, with a wavelength of 780 nm ( $\pm 20$  nm), provides a modulated beam controlled by nVIDEO. The beam power on the drum surface is approximately 0.4 mW, and is controlled by the monitor circuit.

### Collimator Lens

This lens converges and focuses the laser beam, converting it to parallel light.

### Aperture

This controls the size of the laser beam.

### Polygon Mirror and Motor

The polygon scanner consists of a 6-sided mirror, directly driven by a Polygon motor, revolving at 10,000 rpm. The laser beam is reflected against these mirrors and swept over the recorded width in the scanning direction. This unit features a stable line scanning speed, a precision mirror reflection angle, a reflection free surface, and instant start.

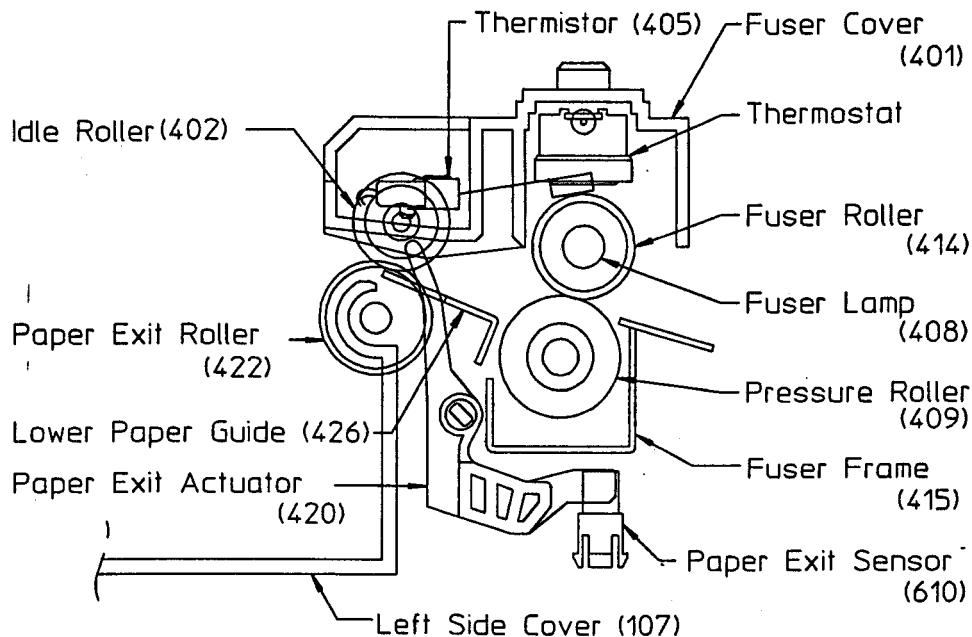
### Beam Detection (BD) Lens and Beam Detection (BD) Sensor

The BD Lens receives the reflected light from the Polygon Mirror and redirects it into the BD Sensor, which converts the laser beam into electrical signals and sets the start timing for the scanning line.

### f- $\theta$ Lens

This amorphous plastic, molded lens is designed to provide parallel laser light across the surface of the drum, providing a constant scanning speed.

## Fusing and Paper Exit

**Fuser Unit (431)**

The Fuser Unit, consisting of the Fuser Lamp, Fuser Roller, Pressure Roller, Thermistor, and Thermostat, bonds the toner into the paper using heat and pressure.

**Fuser Lamp (408)**

Located in the Fuser Roller is a Halogen lamp that serves as the heat source for the Fuser Roller.

**Fuser Roller (414)**

A Teflon coated roller supplies the heat for bonding the toner to the paper. The temperature of the surface is kept constant at approximately 190°C (±10°C) (or 374°F).

**Pressure Roller (409)**

This converted PFA tube Silicon Rubber Roller applies pressure to the Fuser Roller, assisting in bonding the toner to the paper.

**Thermistor (405)**

The Thermistor, a heat sensitive resistor, in contact with the Fuser Roller, monitors the surface temperature. The temperature detected is used to control the ON/OFF switching of the Fuser Lamp. It also acts as the primary overhear prevention device. A comparator circuit on the FCB PC Board acts as a secondary overhear protection and becomes active at approximately 200°C (392°F).

**Thermostat**

A Thermostatic Fuse, part of the power line for the Fuser Lamp, provides an extra overhear protection by opening when the Fuser Roller surface temperature reaches 230°C (446°F) and remains there for 1 minute. If the primary and secondary overhear protection does not halt the rise in temperature, the thermostat opens, removing power from the Fuser Lamp. When the Thermostat opens, it must be replaced.

**Paper Exit Sensor (610) [ESN PCB]**

This sensor detects the presence of printed paper at the exit. If no paper passes, or if paper is over the sensor too long, a "RECORDING PAPER JAM" message is displayed. When paper passes over the sensor, the output is Low (Low Active).



### **Thermal Fuse**

It is placed in series with the Thermostat on the power line of the Fuser Lamp and performs the tertiary overheating prevention (in case the Thermostat fails) by opening when the surrounding temperature reaches approximately 216° C (420.8° F).

### **Drive Assembly and Toner Cartridge**

The **Drive Assembly**, consisting of the Printer Motor (650) and the drive mechanisms, is activated by coupling and gear arrangements.

The **Toner Sensor (639)**, a magnetic sensor, detects the remaining quantity of toner in the Toner Cartridge. When the "TONER" lamp starts to blink, there is still enough toner left in the cartridge to print 100 pages (based on ITU-T Image No. 1). When toner has run out the display will show: "OUT OF TONER & INFO CODE 041" and the machine is disabled from printing any copies.

The **Toner Cartridge** consists of OPC Drum, Bias Charge Roller, Development Roller, Developing Blade, Cleaning Blade, Mixing Blades and Toner Waste Box.

The **OPC Drum** is an aluminum cylinder coated with an OPC (Organic Photo Conductor) sensitive material. This surface is photoelectric (retains the charge in the dark and releases the charge in the light). The potential differences on the surface (a static latent image) form a printed image.

The **Bias Charge Roller** provides a uniform charge on the OPC Drum surface.

The **Development Roller** supplies toner to the drum by rotating over the magnet.

The **Developing Blade** evens the toner on the Development Roller surface and also charges the toner by friction.

The **Cleaning Blade** cleans by scraping the remaining toner off the OPC Drum surface after transfer.

#### **6.1.4 Covers and Enclosures**

The **Paper Guide Cover (110)** contains the Paper Guides (111),(112), which adjusts to properly feed original documents.

The **Left Side Cover (107)** has a Speaker (133) mounted inside.

The **Rear Cover (108)** shields the circuit boards and contains the Battery Cover (109) that provides access to the Battery and program ROM.

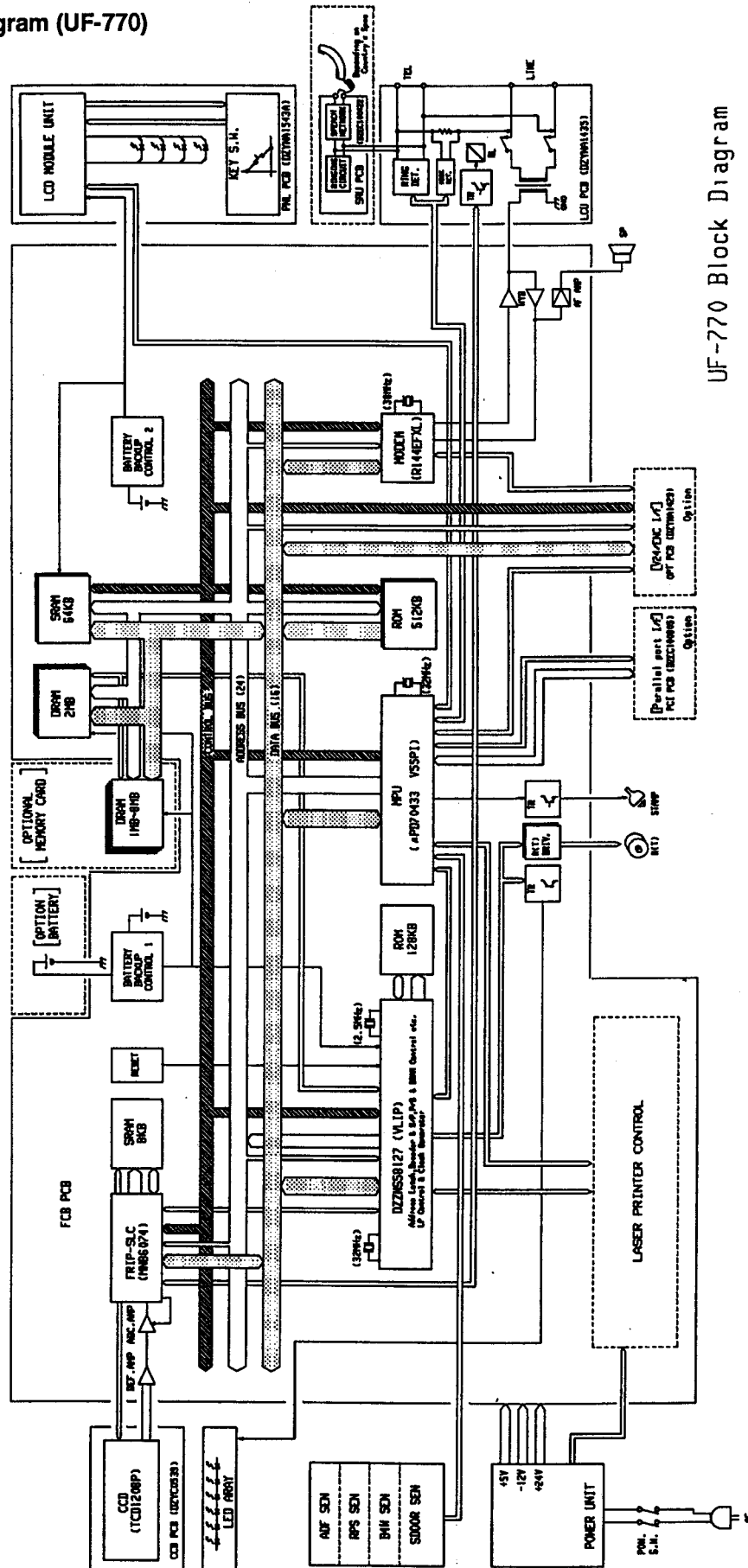
The **Printer Cover (122)** contains the Document Sub Tray (124), used to support legal size documents.

#### **6.1.5 Control Panel**

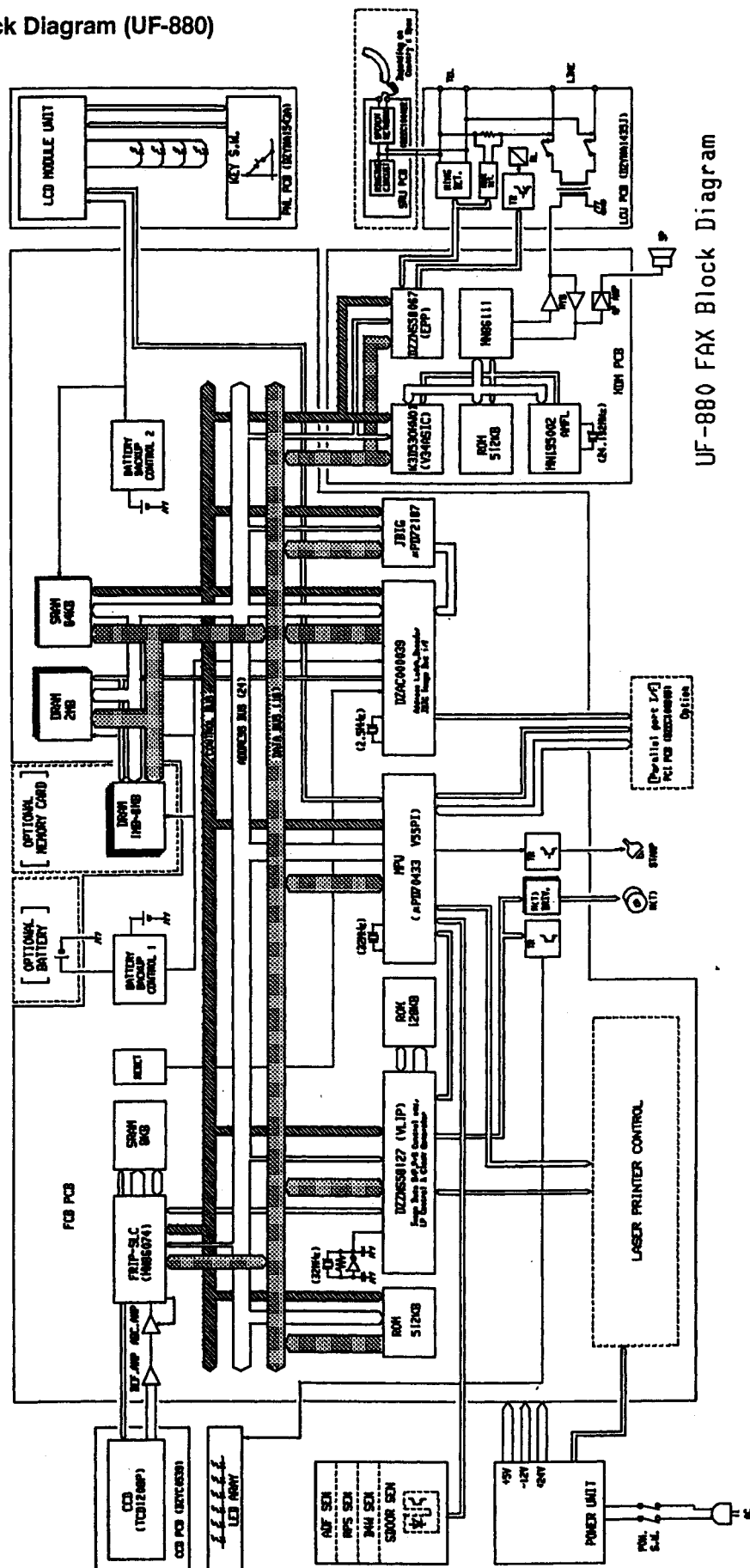
The **Control Panel** consists of the Panel PC Board (214) and Display PC Board (215), which displays the various status messages, and a membrane-type panel.

## 6.2 Electrical Circuit Explanation

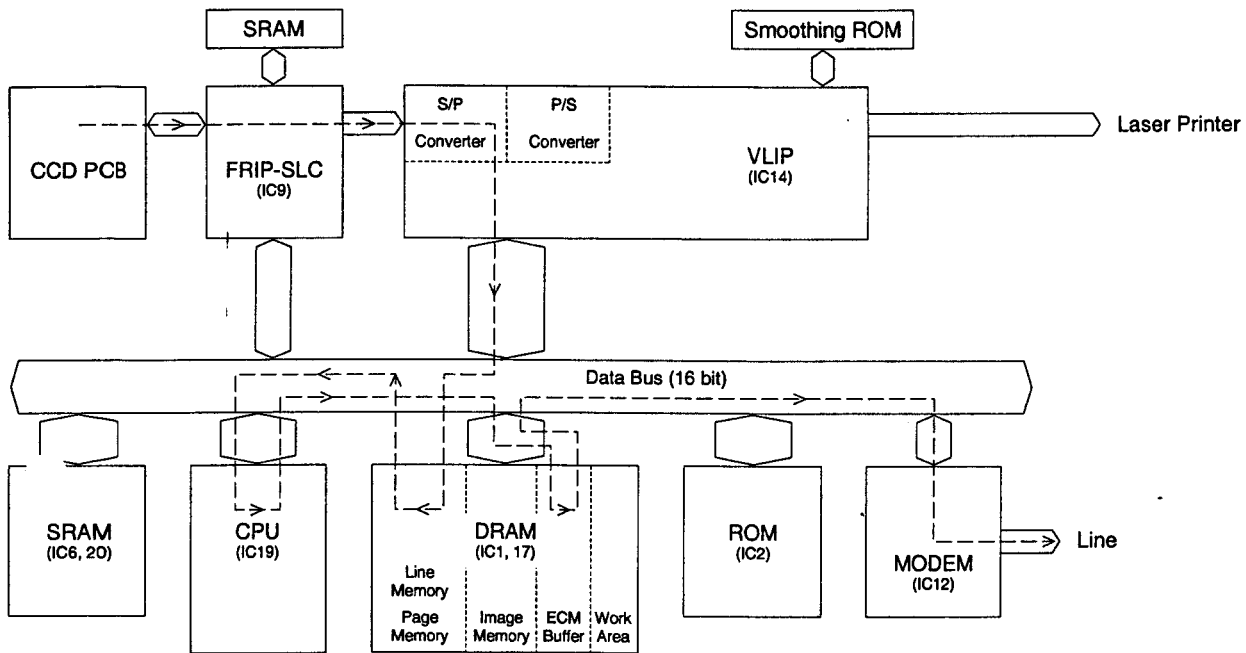
### 6.2.1.1 Fax Block Diagram (UF-770)



### 6.2.1.2 Fax Block Diagram (UF-880)

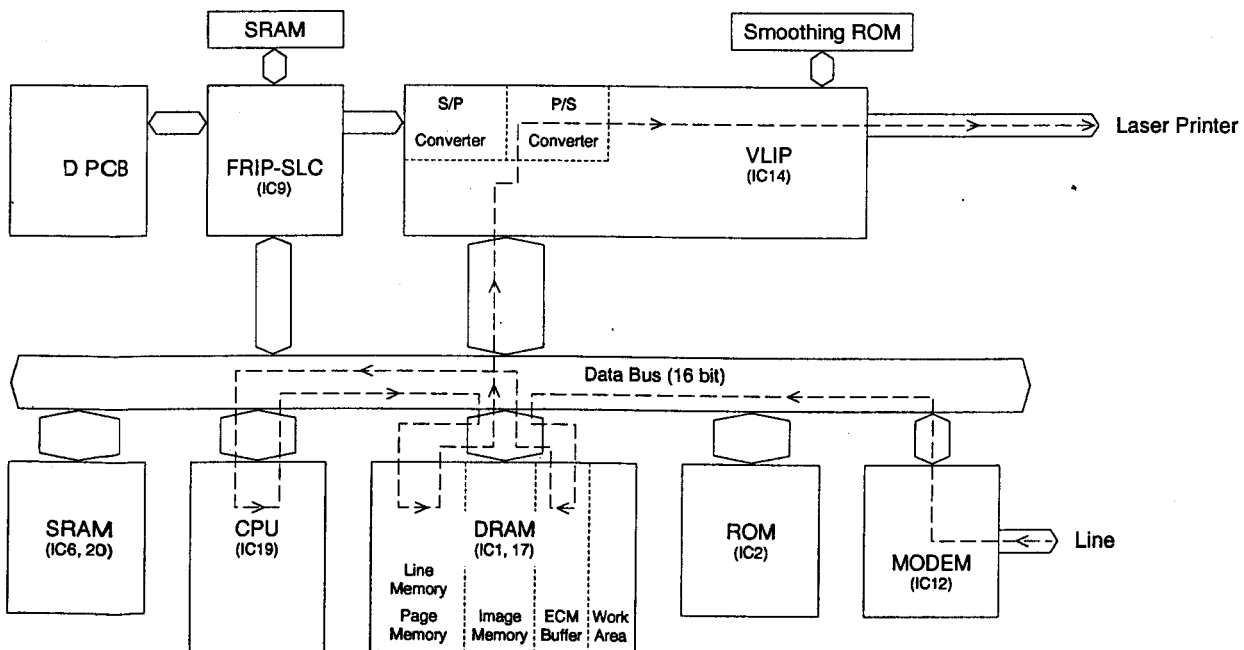


### 6.2.2.1 Signal Routing (UF-770)



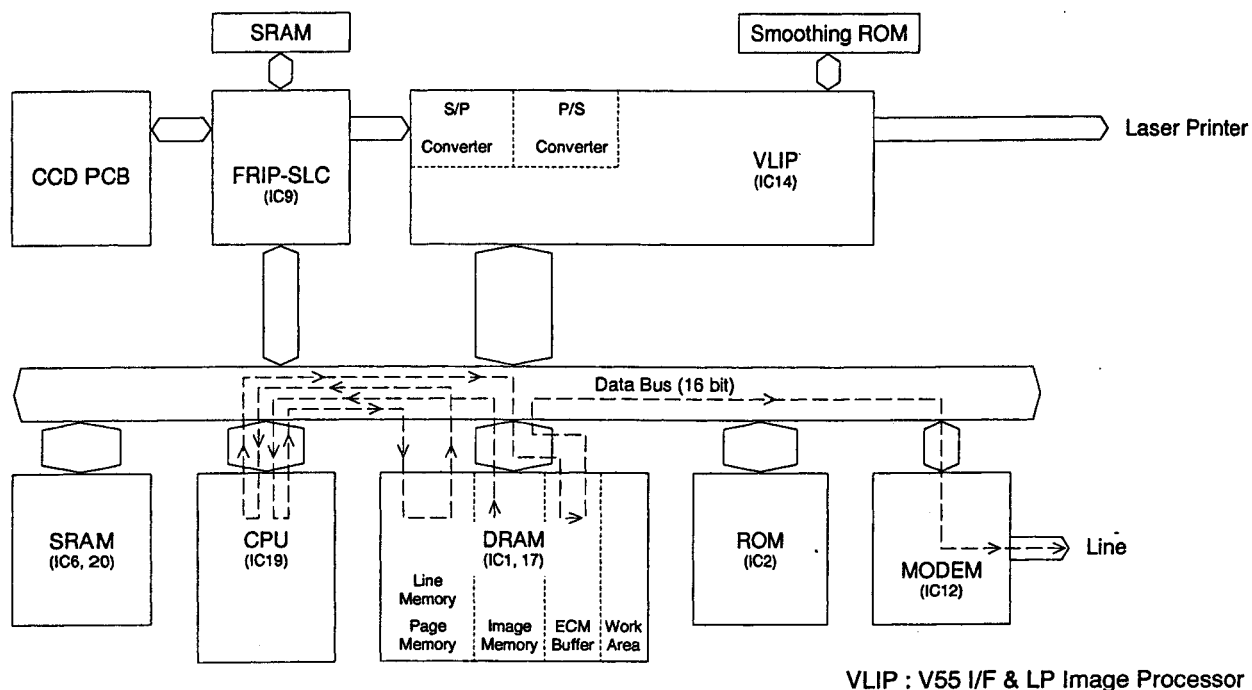
VLIP : V55 I/F & LP Image Processor

#### ADF Transmission

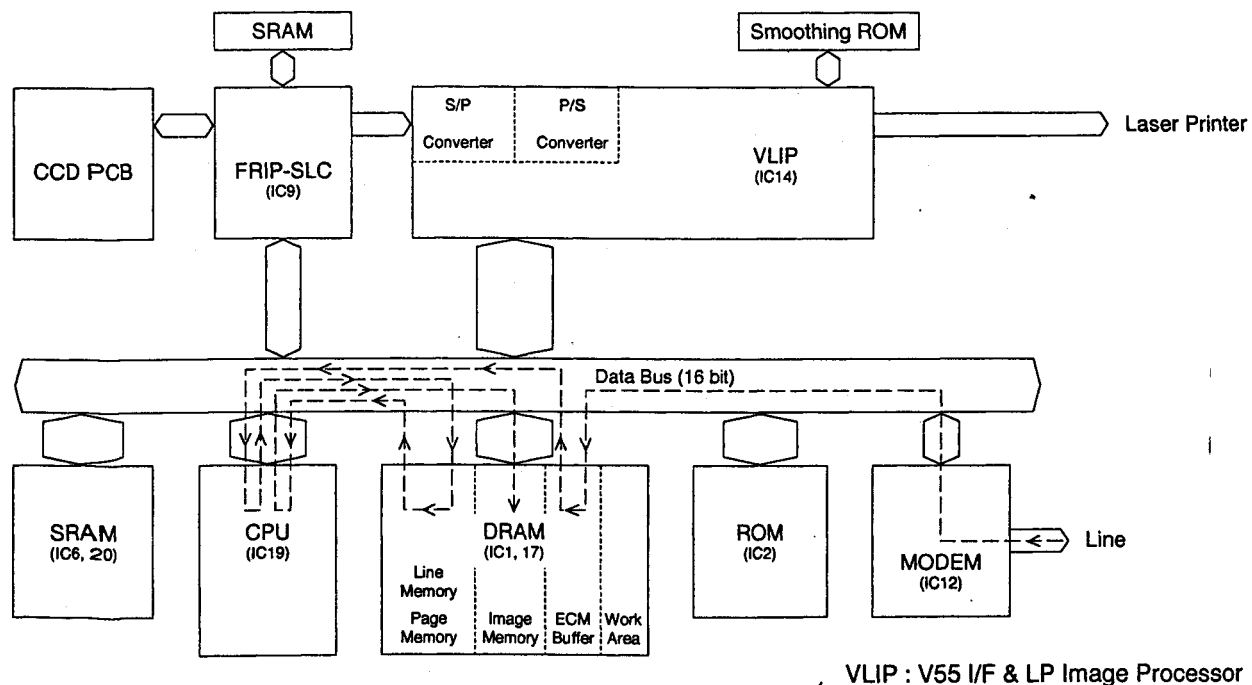


VLIP : V55 I/F & LP Image Processor

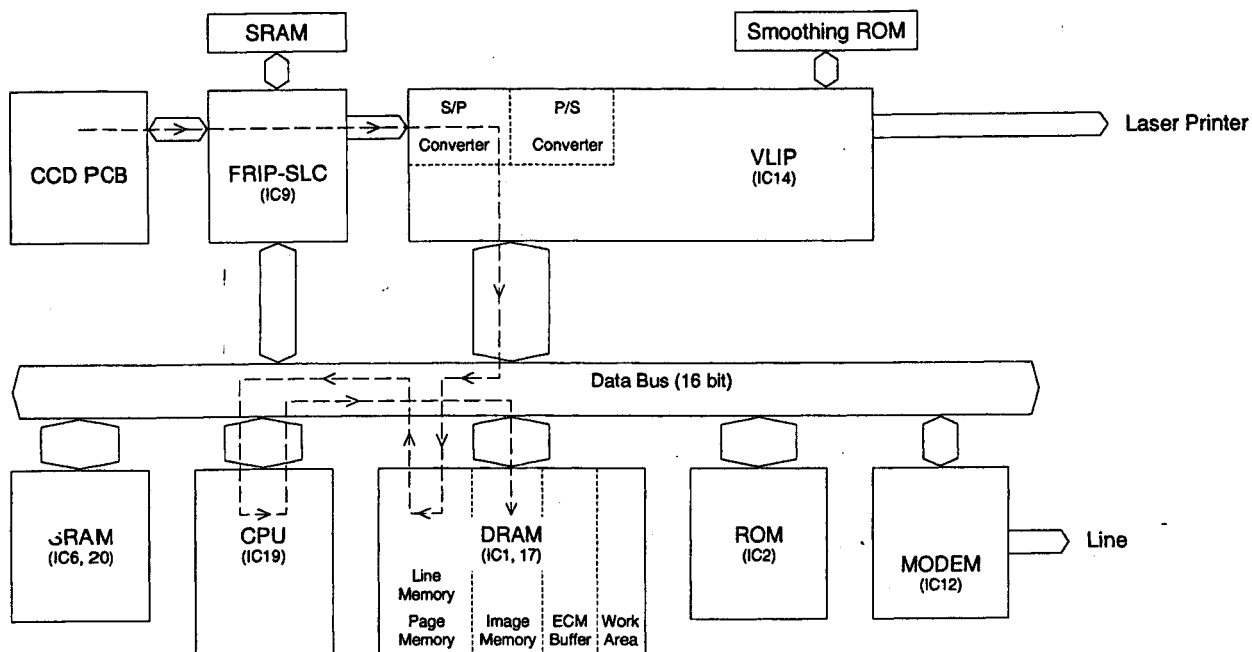
#### Direct Reception



Memory Transmission

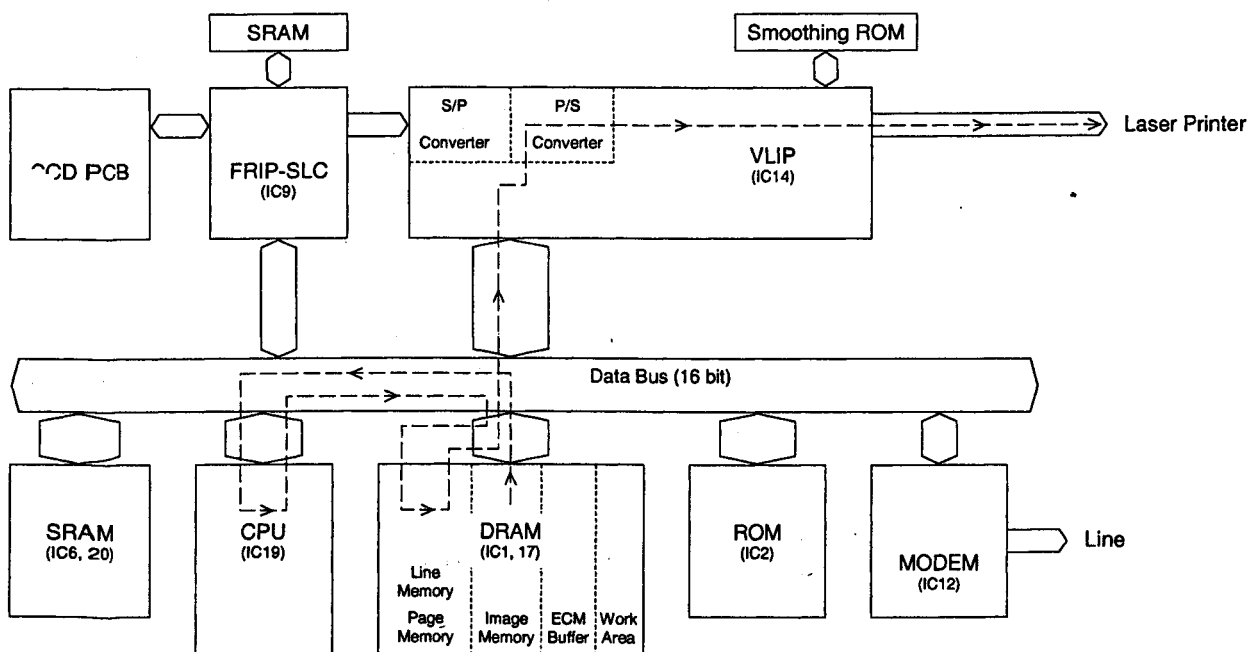


Memory Reception



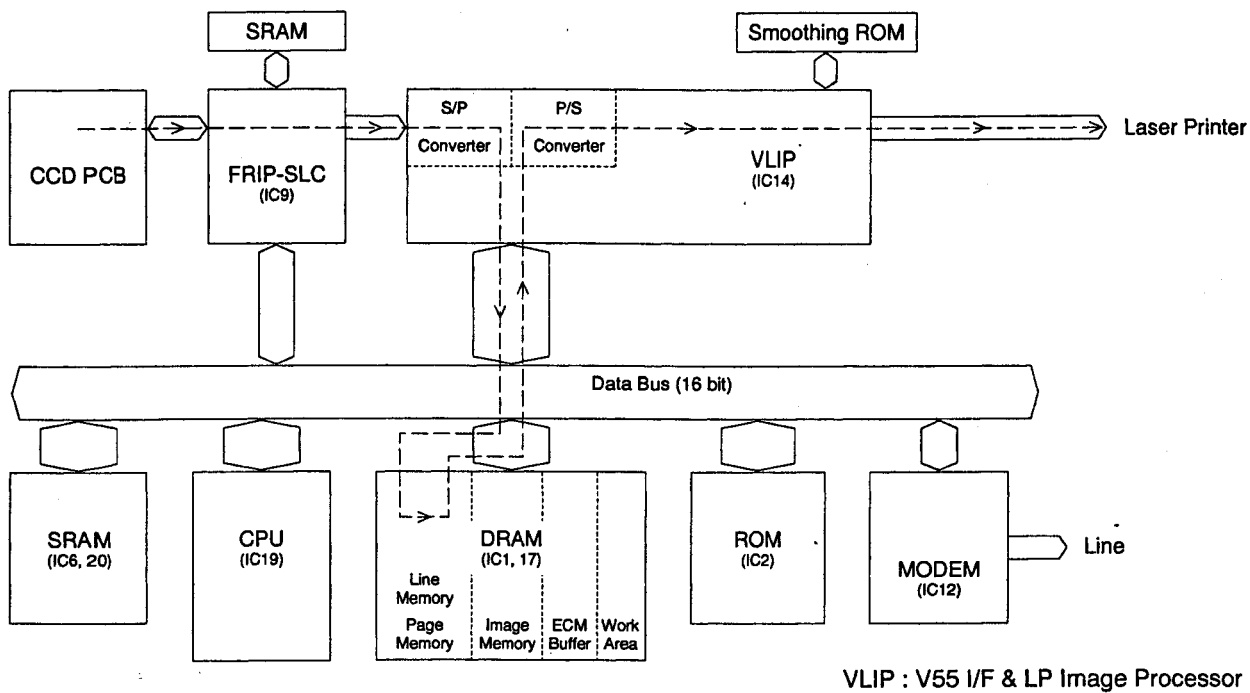
VLIP : V55 I/F & LP Image Processor

**Scan into Memory**

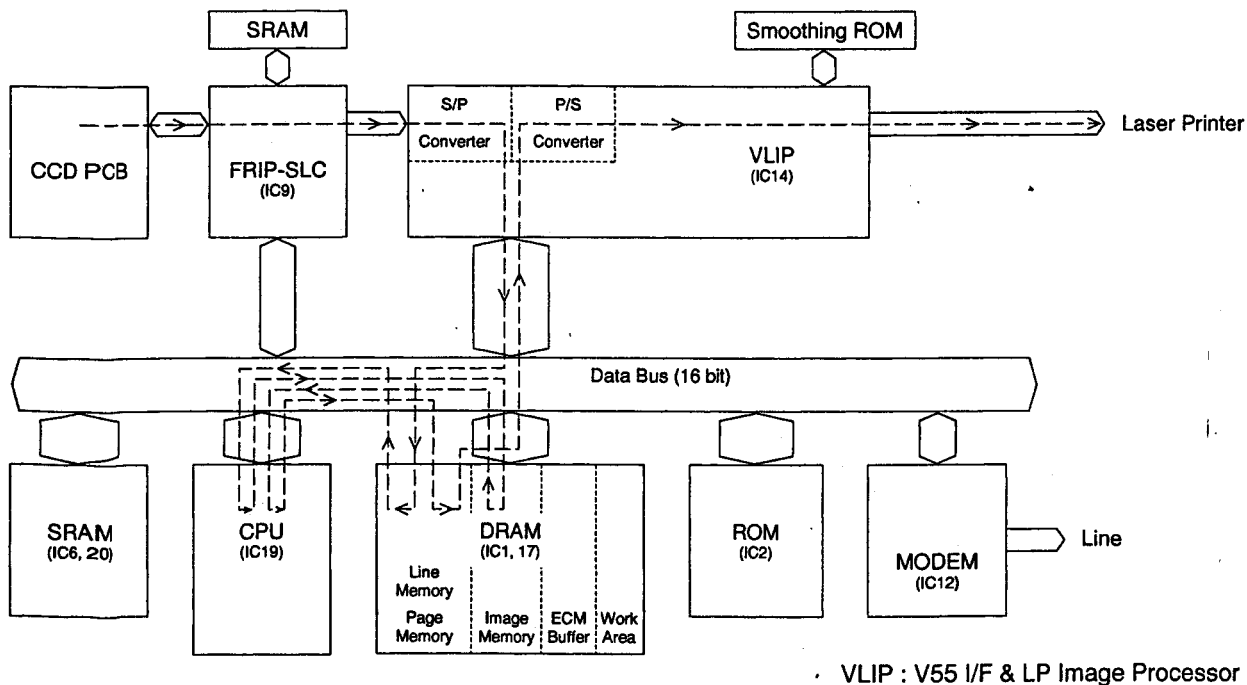


VLIP : V55 I/F & LP Image Processor

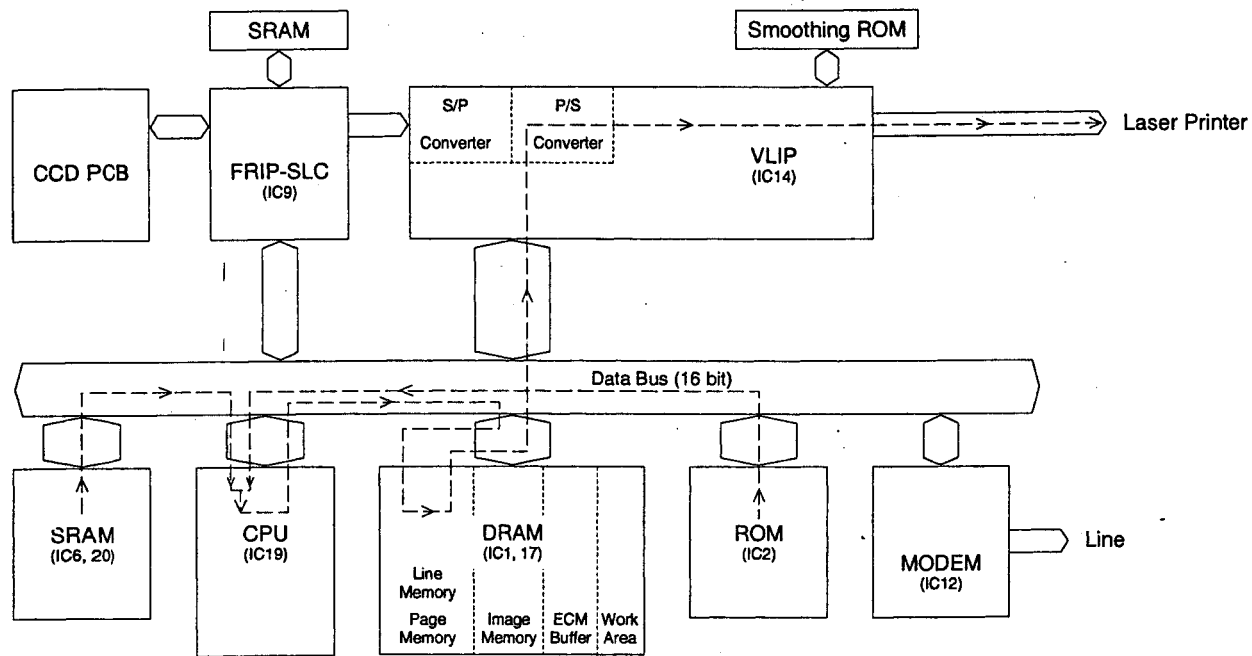
**File Print from Memory**



Single Copy



Multiple Copies

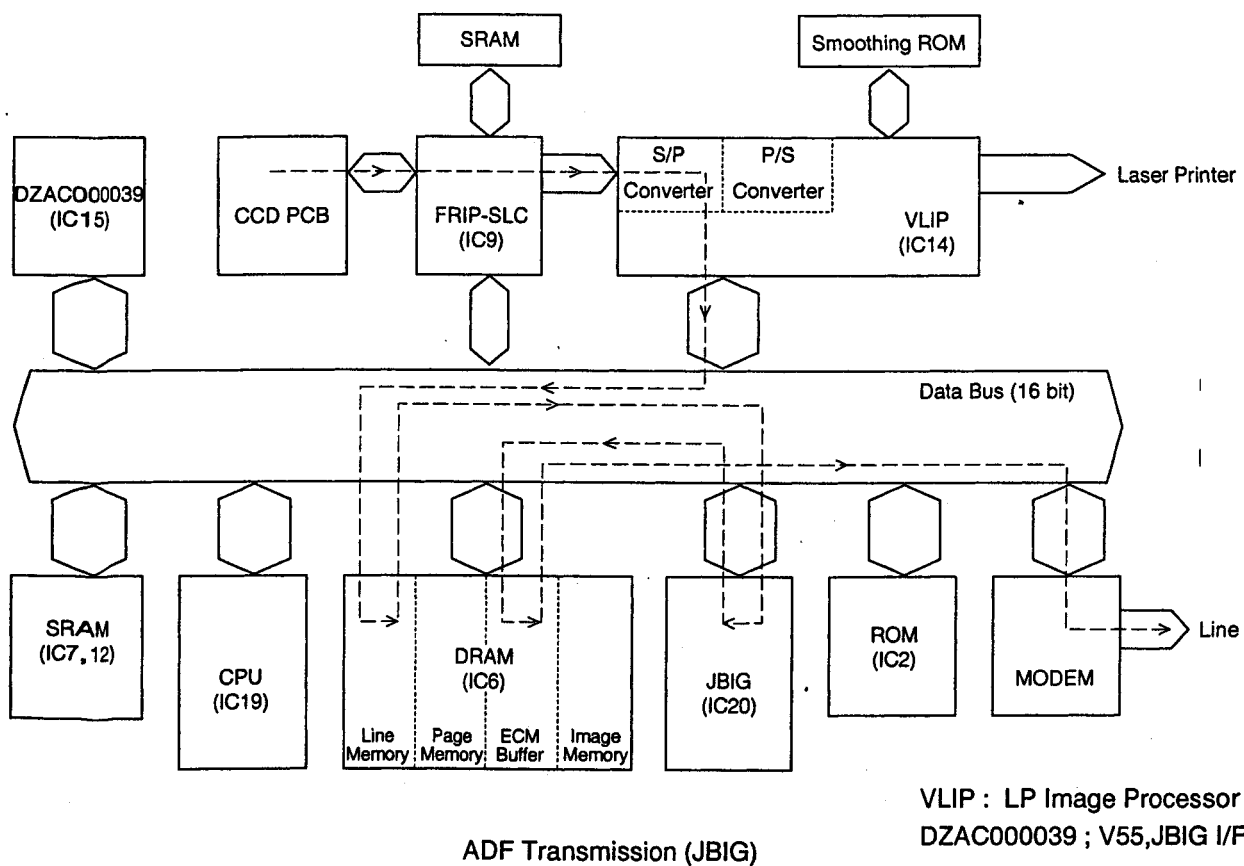
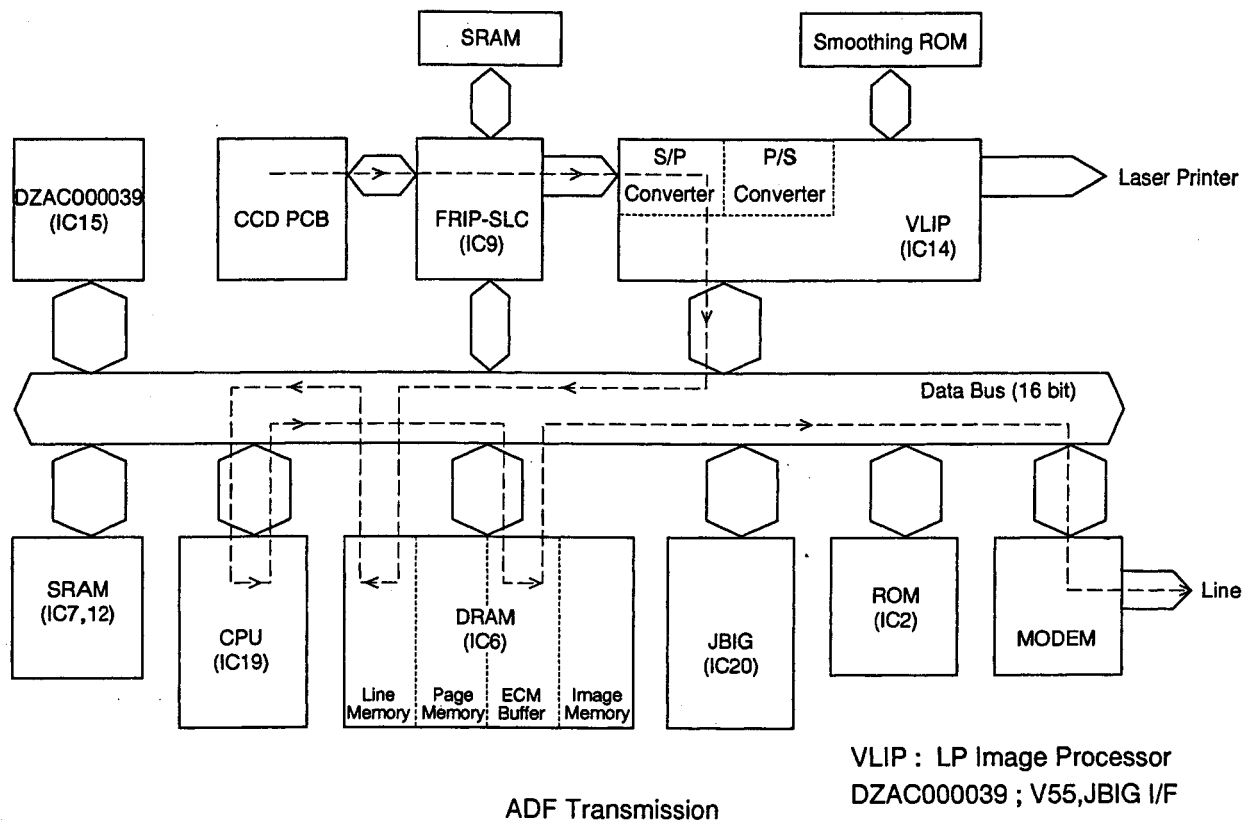


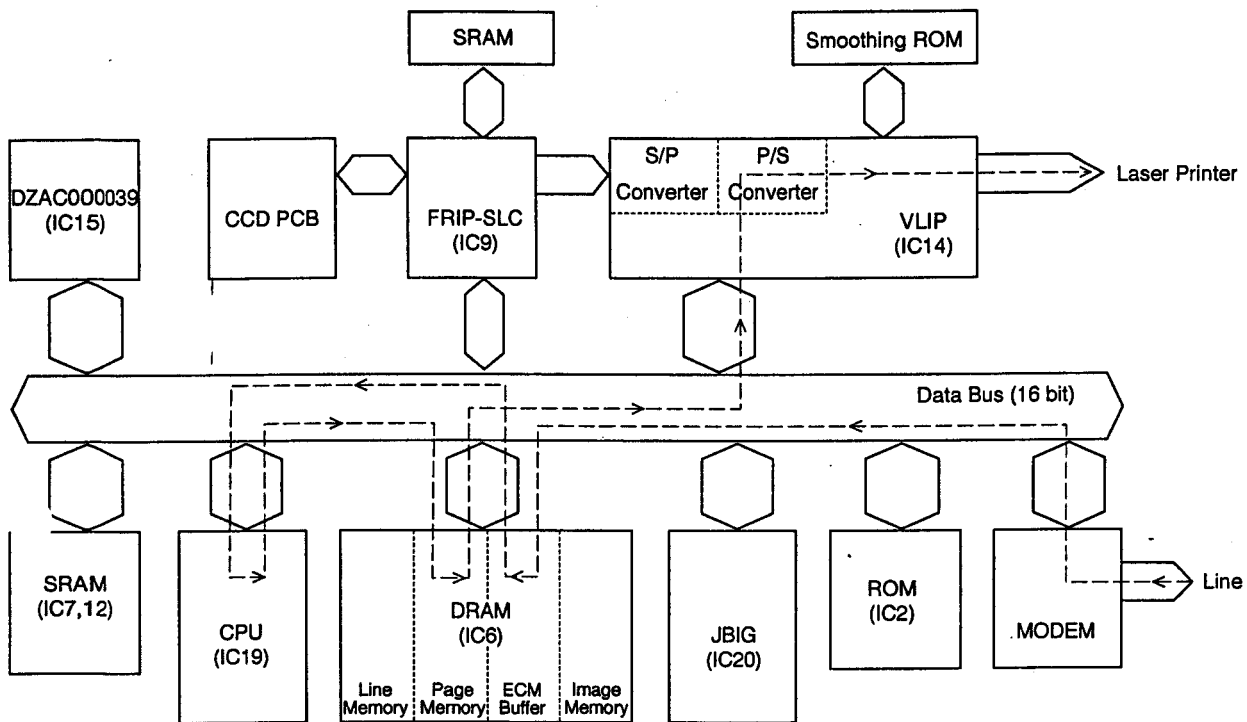
VLIP : V55 I/F & LP Image Processor

Report / List Printing



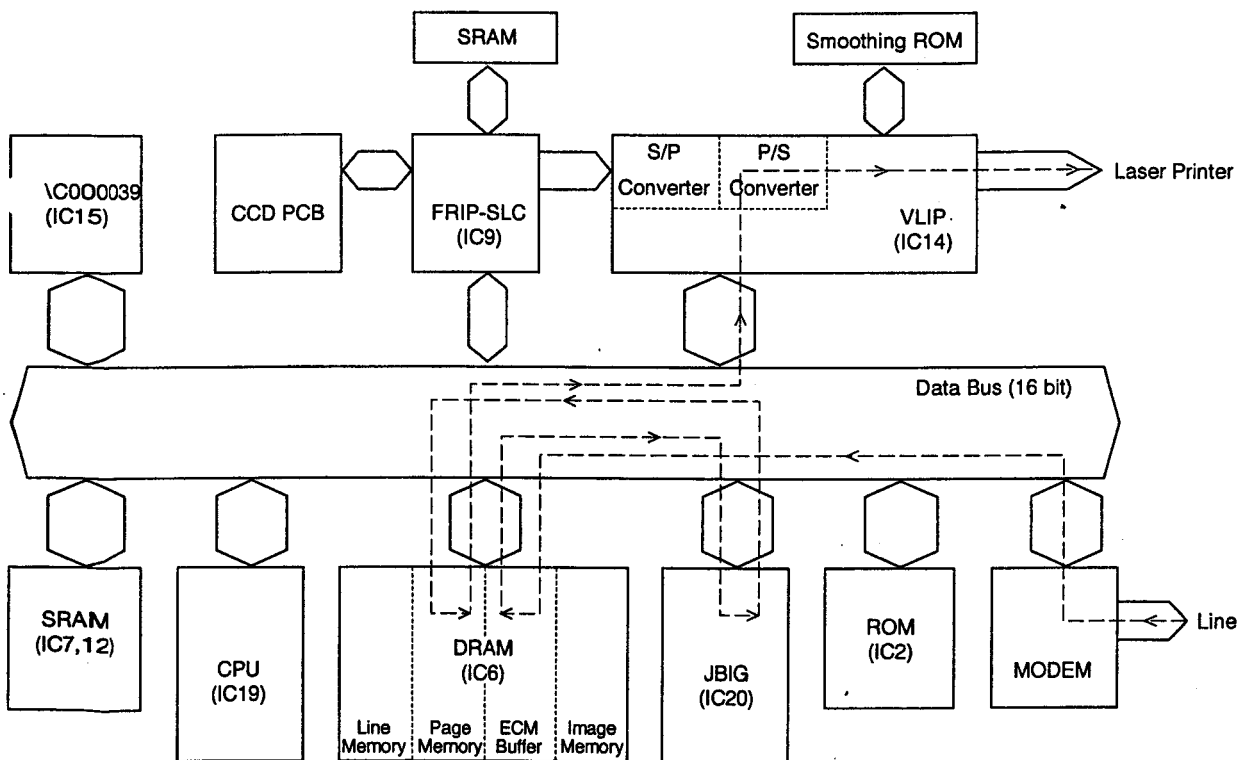
### 6.2.2.2 Signal Routing (UF-880)





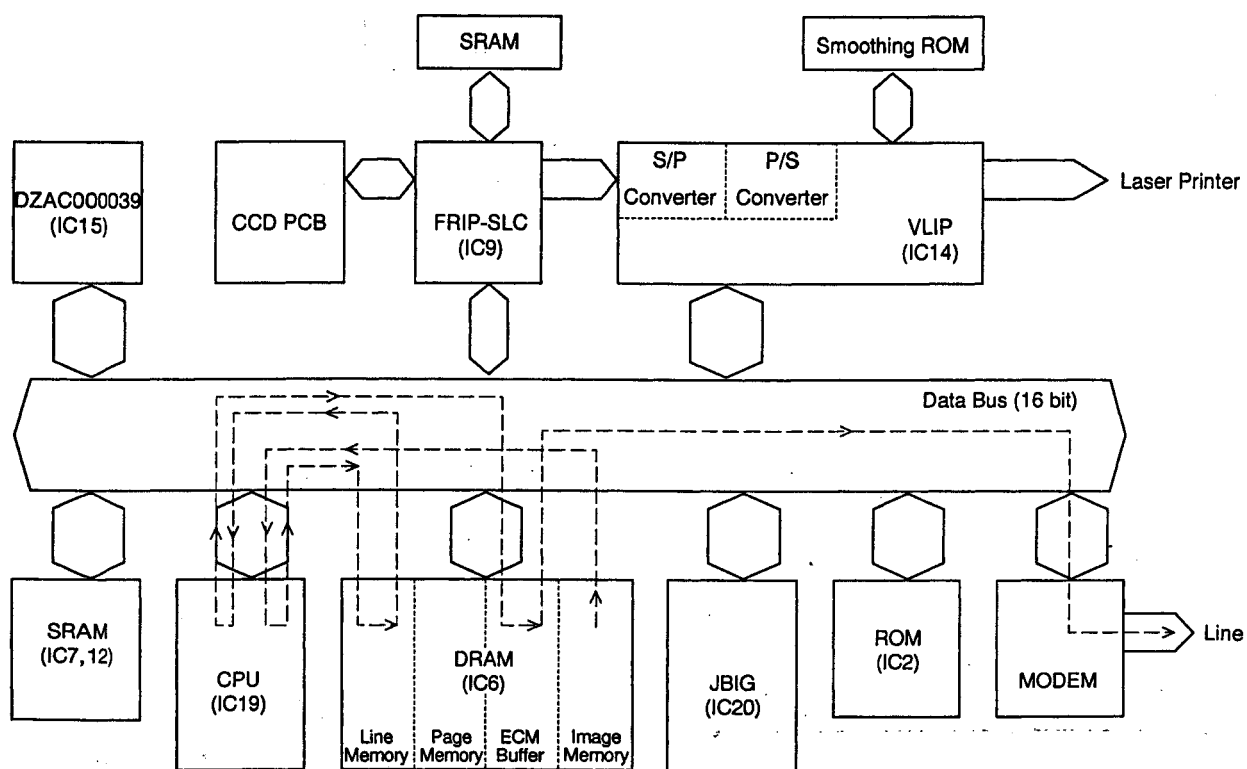
Direct Reception

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



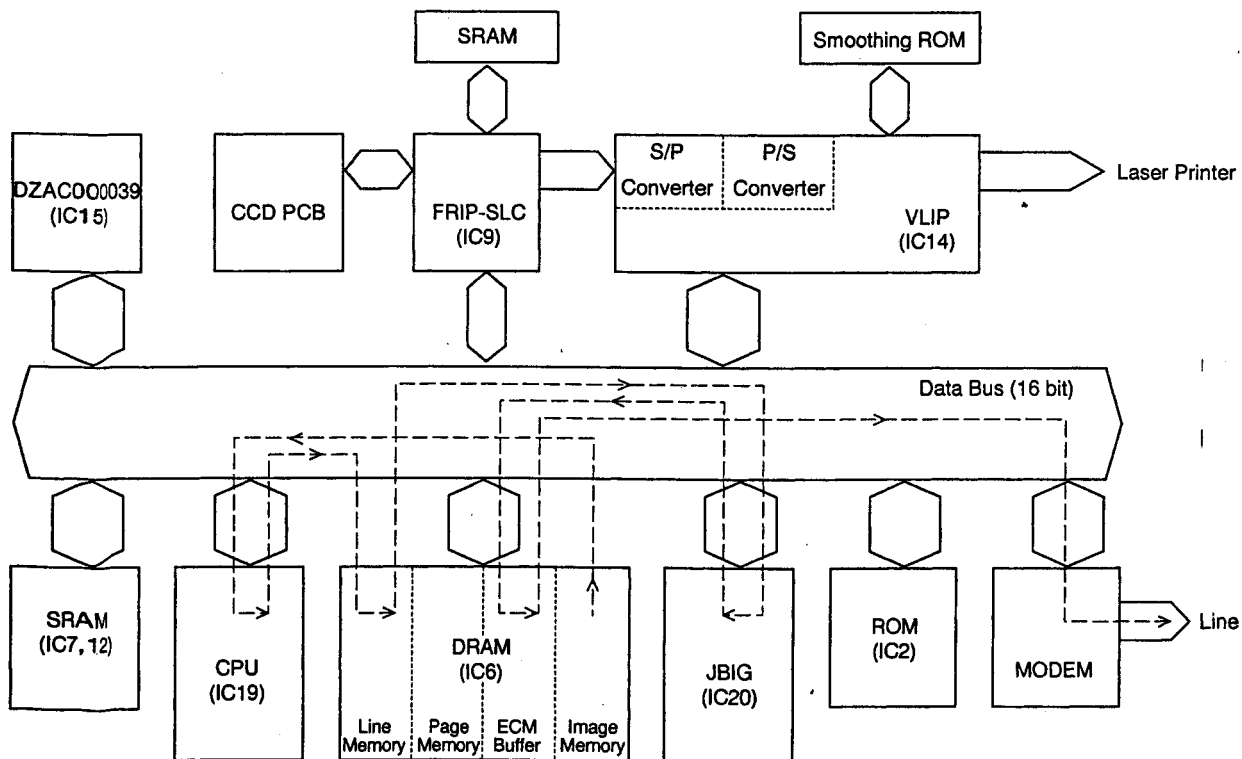
Direct Reception (JBIG)

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



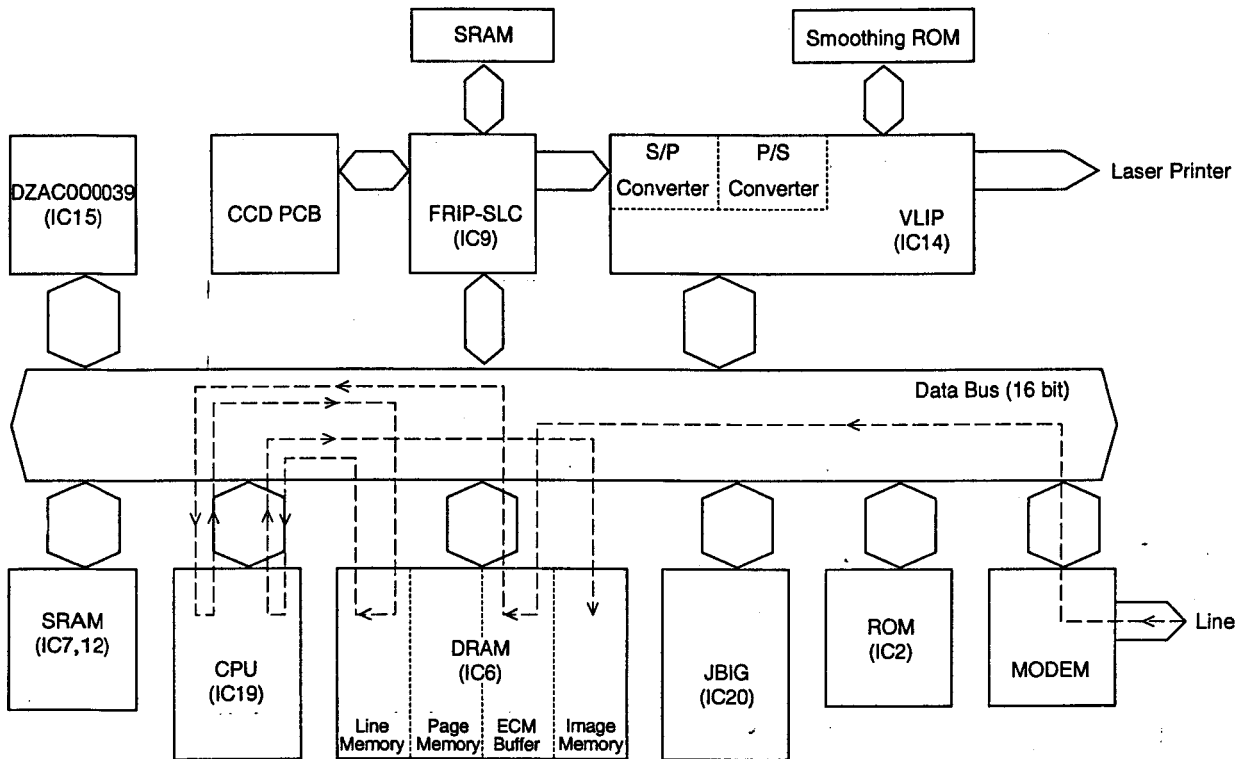
Memory Transmission

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



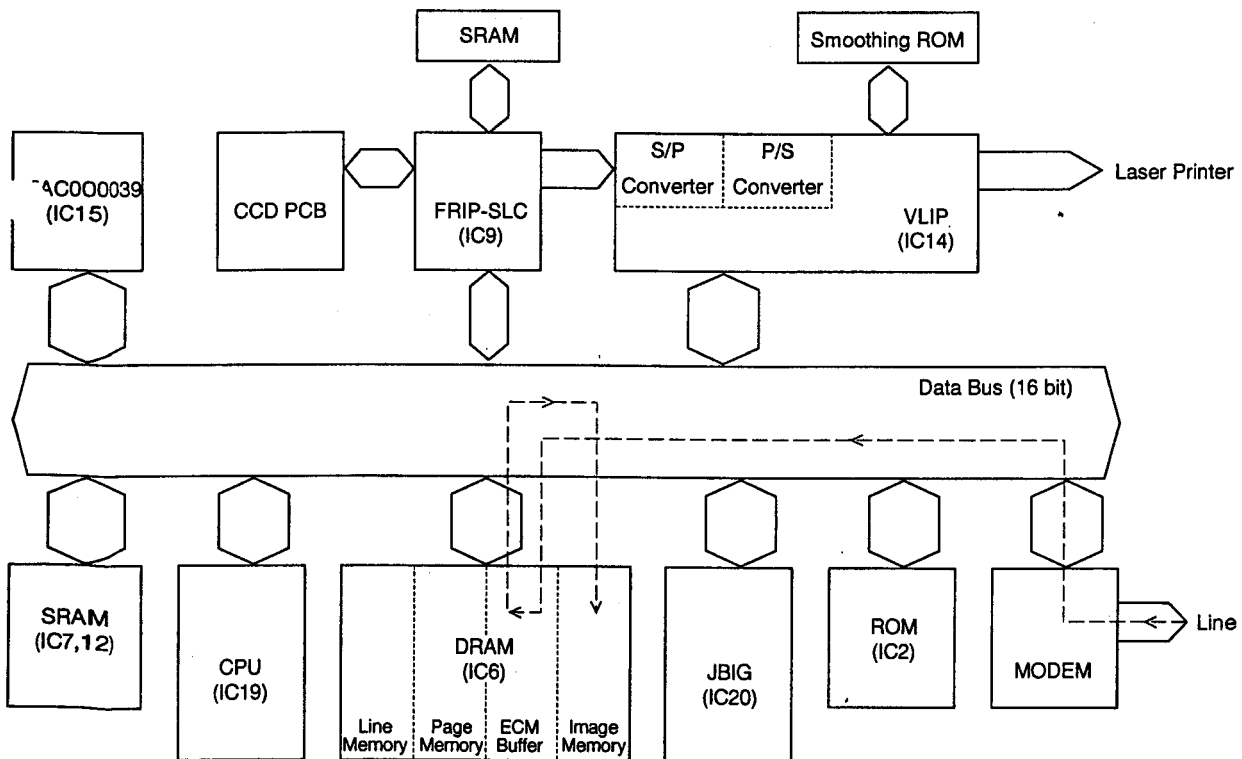
Memory Transmission (JBIG)

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



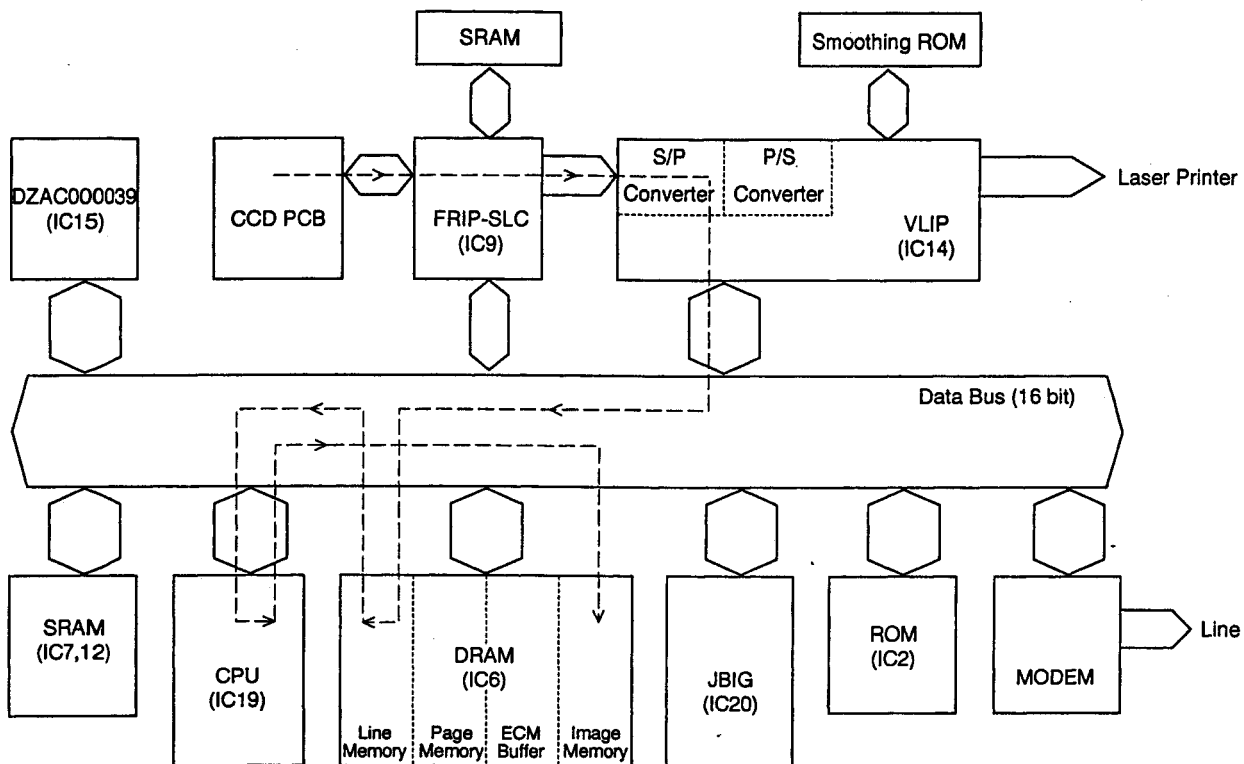
Memory Reception

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



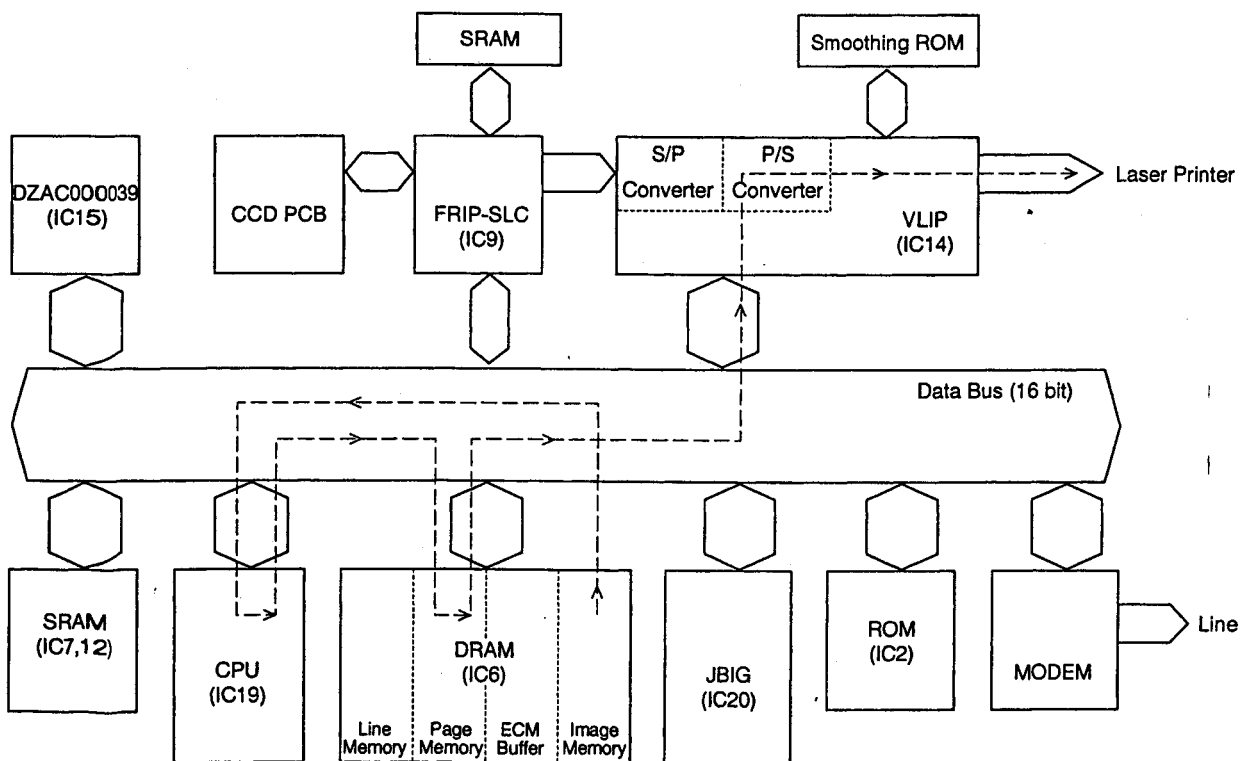
Memory Reception (JBIG)

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



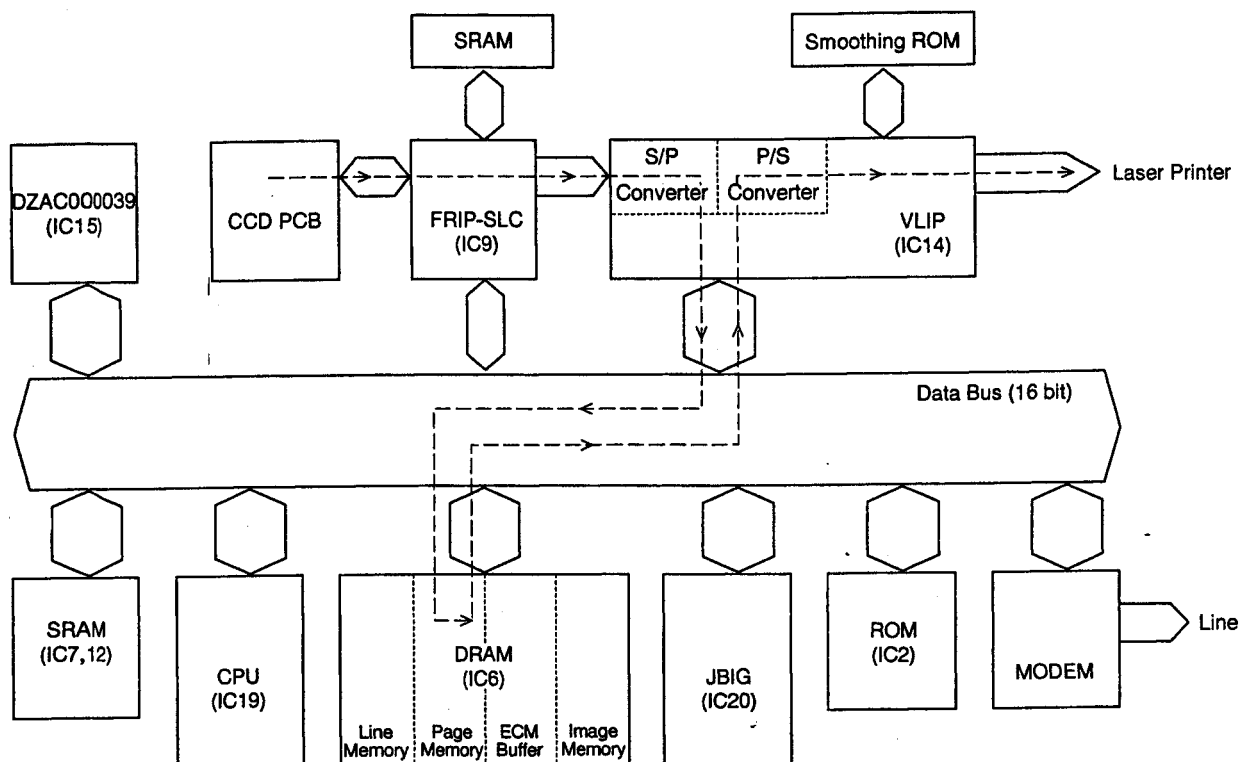
Scan into Memory

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



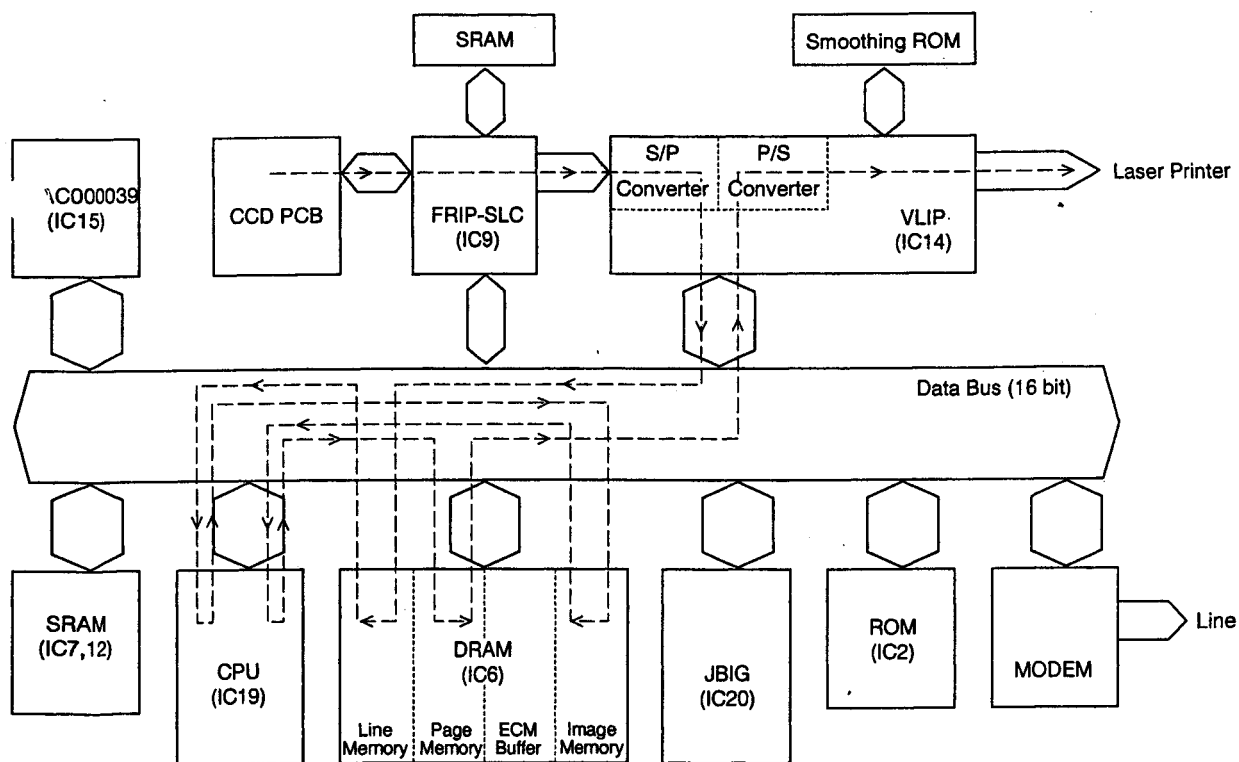
File Print from Memory

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



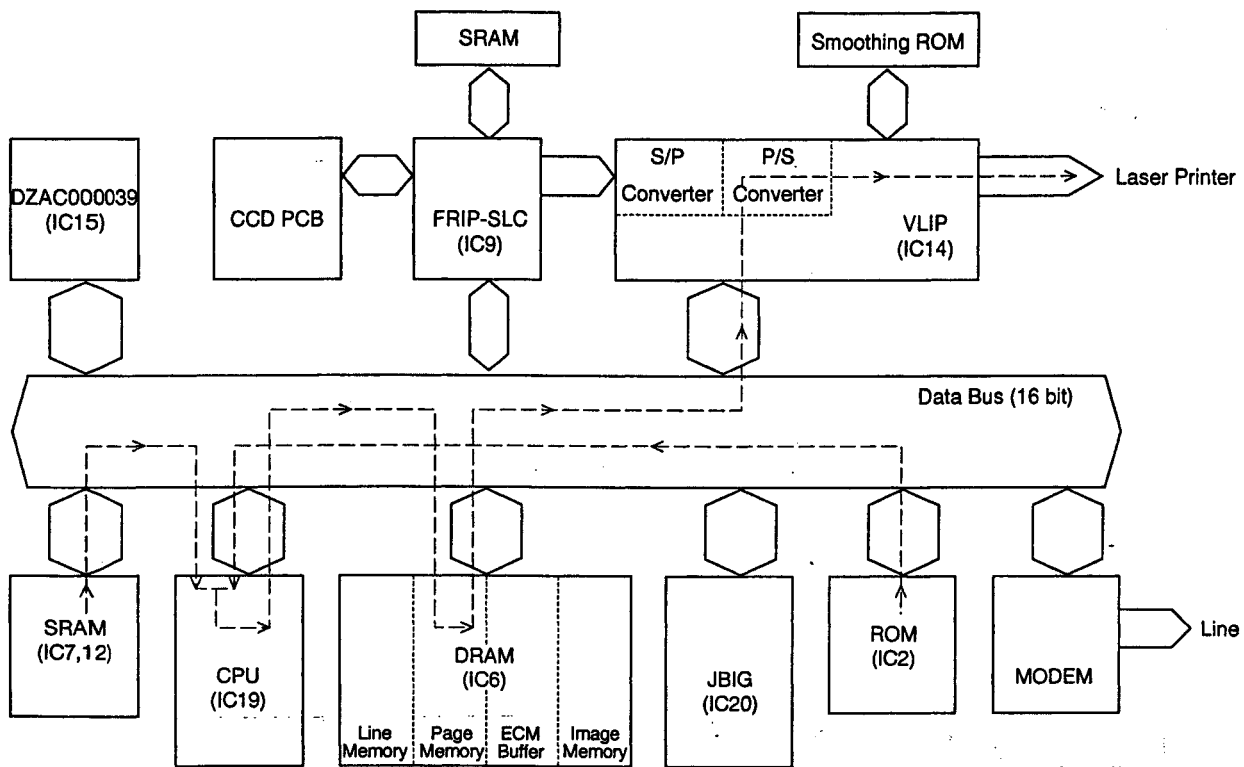
Single Copy

VLIP : LP Image Processor  
DZAC000039 : V55,JBIG I/F



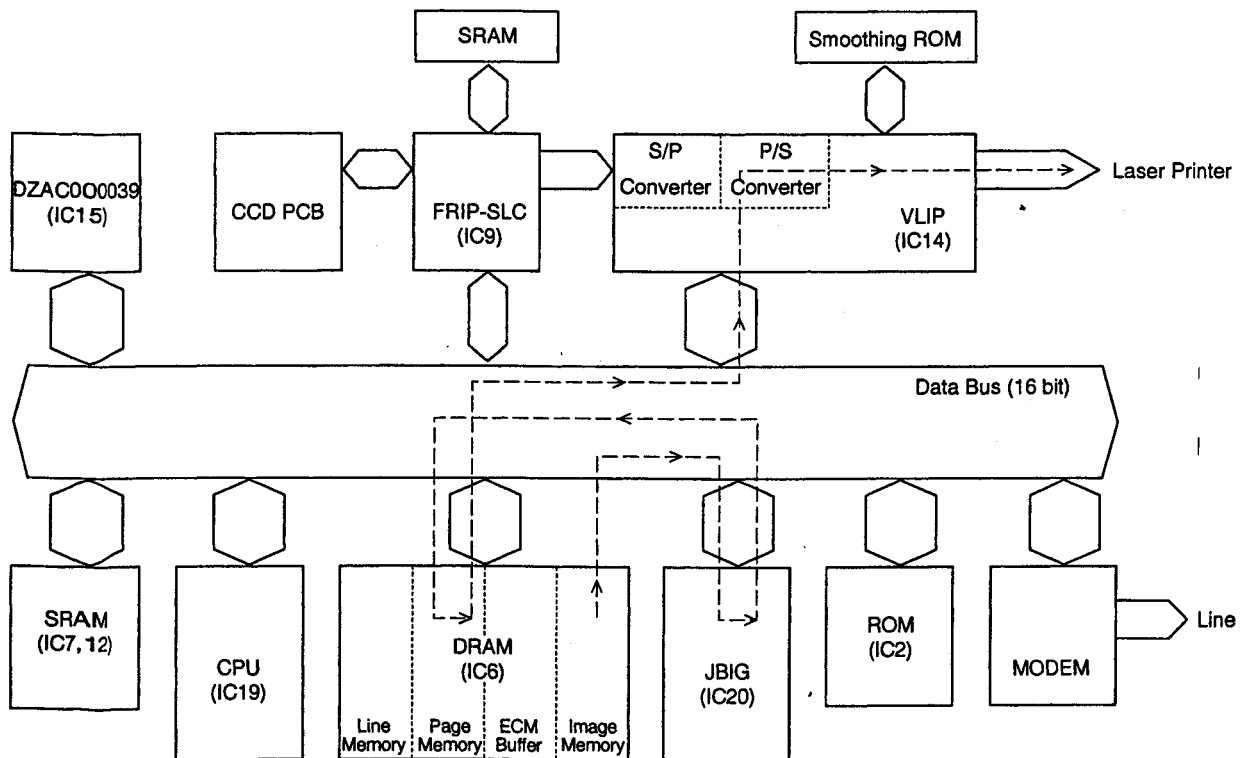
Multiple Copies

VLIP : LP Image Processor  
DZAC000039 : V55,JBIG I/F



Report/List Printing

VLIP : LP Image Processor  
DZAC000039 : V55,JBIG I/F

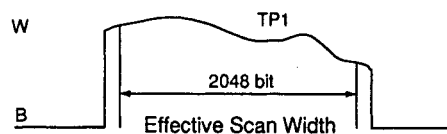
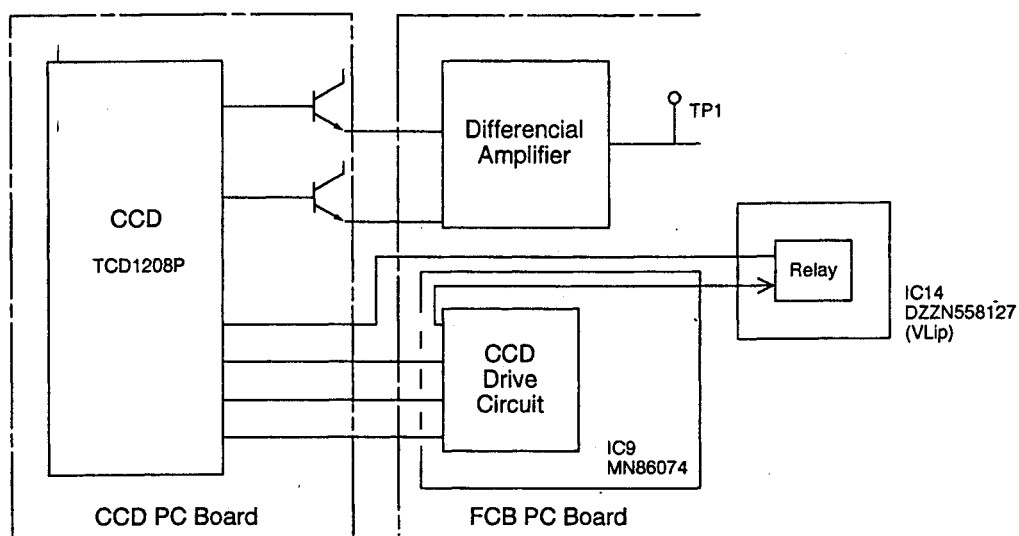


File Print from memory (JBIG File)

VLIP : LP Image Processor  
DZAC000039 : V55,JBIG I/F

### 6.2.3 Picture Signal Scanning Block

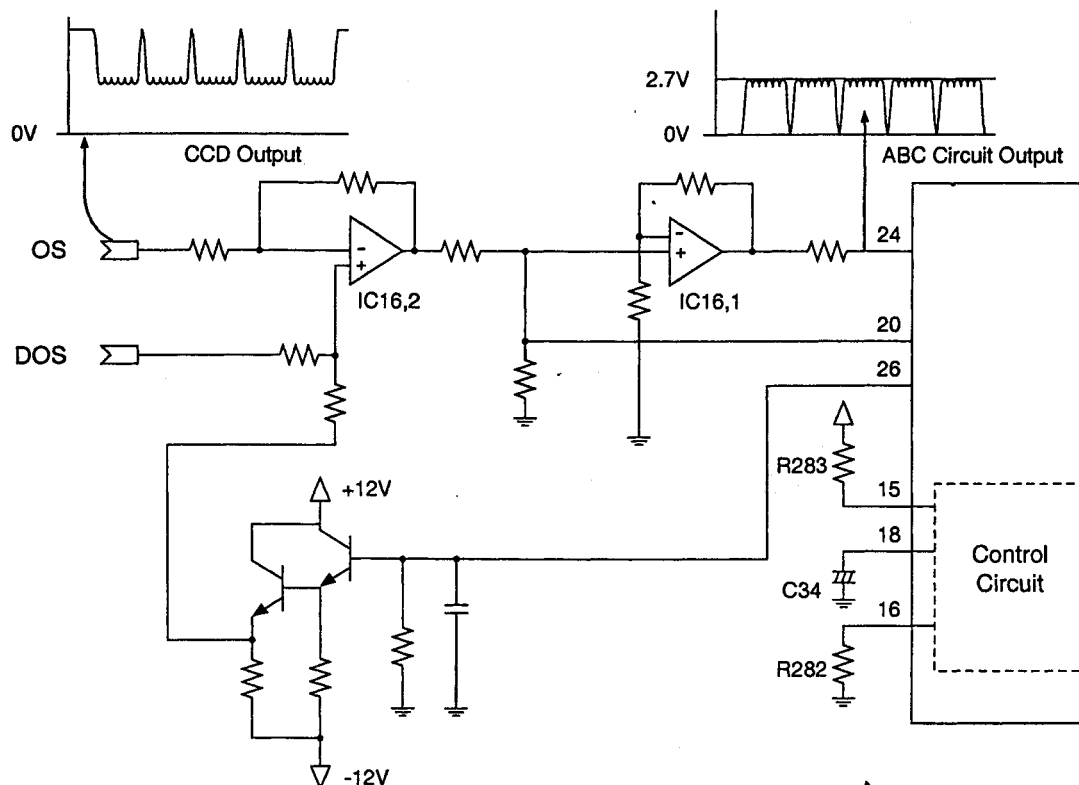
The image data read by the optical unit is input to the CCD mounted on the CCD PC Board, then transferred to the FCB PC Board after the optical information is converted into an electrical signal by the CCD. The following shows a block diagram of the picture signal scanning circuit. This picture signal scanning circuit consists of (1) ABC circuit, (2) shading correction circuit, (3) offset control circuit, (4) picture signal binary coding correction circuit and (5) reducing circuit.





### ABC Circuit

This circuit consists of IC16, IC9, C34, R282 and R283. Its function is to prevent deterioration of picture quality due to dirt on the document or degrading of the luminous energy of the LED light source. The picture signal from the CCD is amplified in IC16 and input to IC9, where it is converted from analog to digital and the shading is corrected. When the signal exceeds +2.7V as the result of this amplification and correction, capacitor C34 is charged through R283. This charging voltage lowers the level of the picture signal input to IC16. When the picture signal voltage rises, this charge voltage becomes higher. When the picture signal level lowers due to the background color, etc., of a transmitting document, the voltage of the charged capacitor C34 is discharged through R282. Consequently, the output of the ABC circuit is kept constant to maintain the picture quality, regardless of changes in the CCD output level.



### Shading Correction Circuit

The Shading Correction Circuit, included in IC9, is provided to correct for reduction in lamp intensity around the optical lens and LED intensity distortion due to shading of each bit. This circuit scans the reference white on the transmitting document plate immediately before the document reaches the scanning position and writes a compensation value according to the distortion of the waveform, at the time, into the S-RAM (IC3). When the actual picture signal is input, the circuit corrects the picture signal shading, according to this compensation value. This shading is carried out for each page during transmission or copy.

### Offset Control Circuit

The Offset Control Circuit consists of Q22 (UF-880: Q7), Q23 (UF-880: Q8), IC9 and IC16, and controls the black level of the CCD output to be at 0V by using the IC16 input.

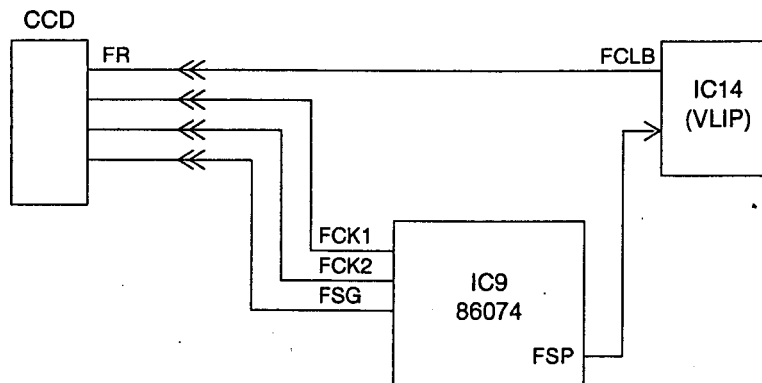
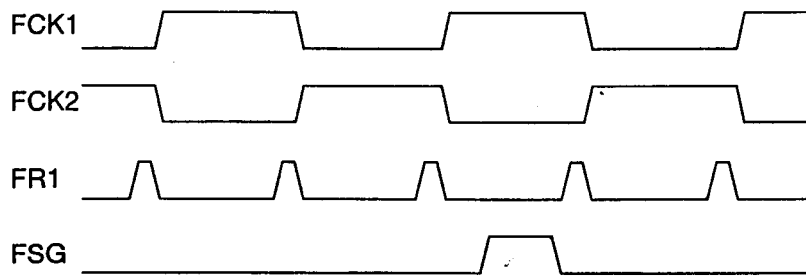
### Picture Signal Binary Coding Correction Circuit

The Picture Signal Binary Coding Correction Circuit is included in IC9. It is used to obtain a binary coding signal which is a corrected picture and error diffused signal of a false halftone signal, which is detected from a shaded picture signal.

#### 6.2.4 CCD Drive Clock Generator Circuit

This circuit is also contained in IC9. Its function is to generate FSG, FCK1, FCK2 and FR1 clock signals, which are required for driving the CCD. These clock signals are generated by the system clock generator circuit derived from the 8 MHz clock signal that is input to IC9. Its timing chart is shown below.

The FR clock supplied to the CCD is output from the FCLB of IC14 (VLIP). The FCLB clock of IC14 is derived from the FSP clock of IC9 (MN86074) generates the timing of the FR clock to drive the CCD.



## 6.2.5 Picture Quality Control Circuit

This circuit consists of a recording picture control standard cell IC14 (DZZNS58127 or "VLIP"), an interpolation table ROM (IC18), line memory for interpolating (SRAM) and its peripheral circuitry.

The recording picture control standard cell (IC14) inputs the parallel data from the system bus, conducts picture quality correction (smoothing), reduction, synchronization control, etc., then sends this data to the printer. These functions are as follows:

### Picture quality correction circuit (smoothing)

Compares the picture element with 15 surrounding picture elements, determines the interpolation data from the interpolation data ROM, and smoothes out diagonal lines, etc., on the recorded picture.

### Image range isolation circuit

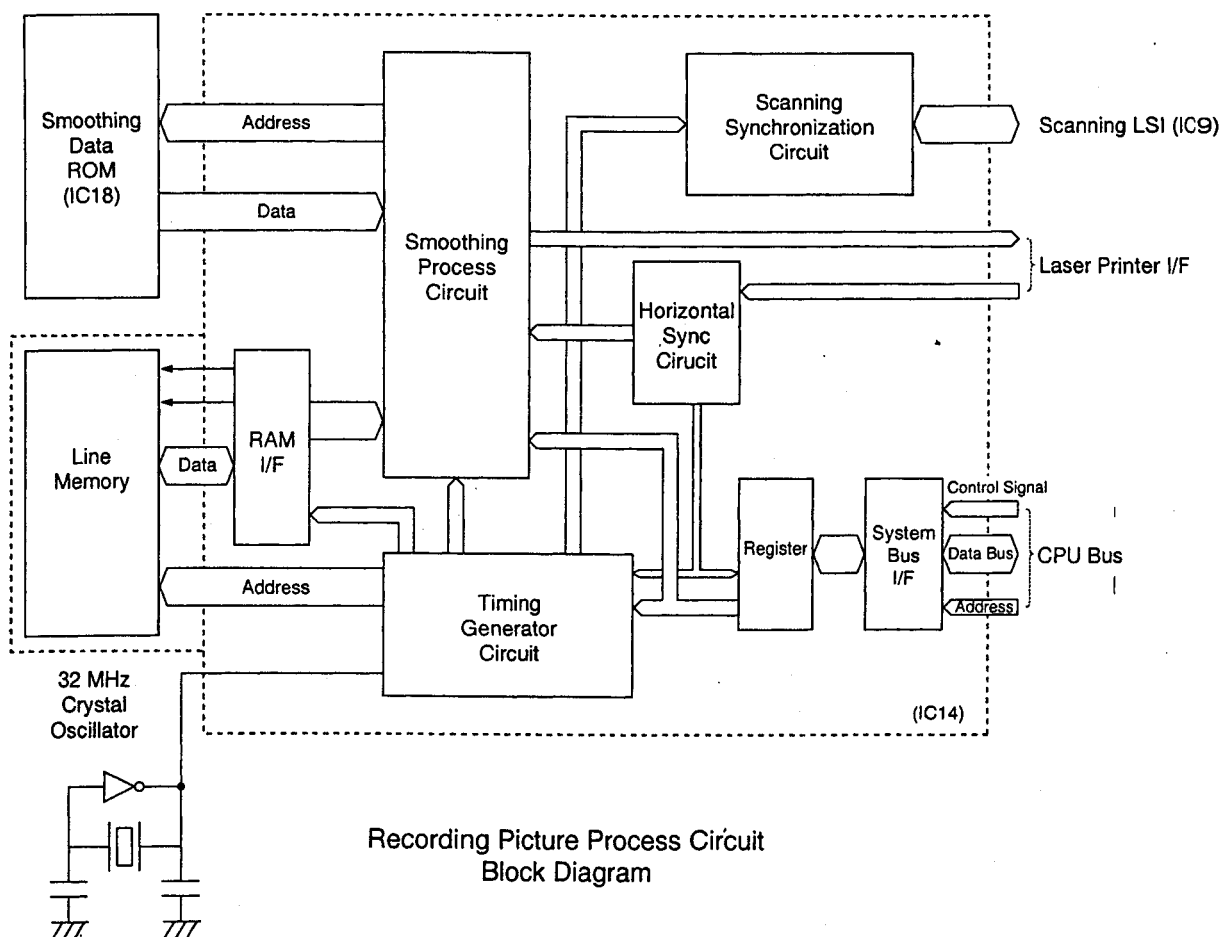
Identifies the halftone picture range and controls smoothing to eliminate blotching of the recording picture which has undergone error diffusion or other processing.

### Reduction circuit

This circuit is used to process the received data so that it fits on the recording paper, according to the Fax Parameter settings.

### Synchronization control circuit

This circuit is used to synchronize the output recorded data with the horizontal synchronizing output signal from the printer for each line. Within a line, it is synchronized with the dot clock signal. The dot clock signal is provided by dividing the crystal oscillator frequency from the Extend Generator Circuit (32 MHz) by 5.

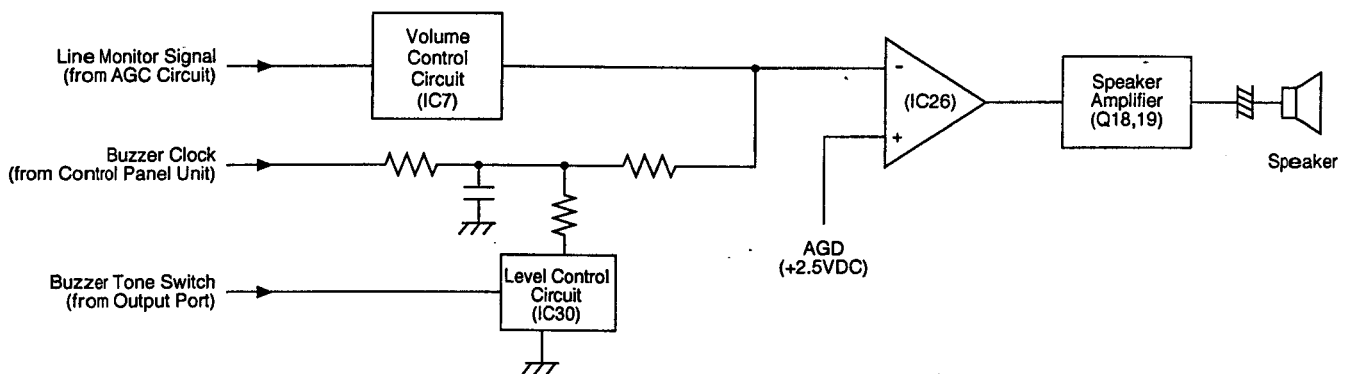


Recording Picture Process Circuit  
Block Diagram

### 6.2.6.1 Line Monitor Circuit (UF-770)

The Line Monitor Circuit consists of an operational amplifier (IC26), analog switch (IC7), speaker amplifier (Q18,19) and its peripheral circuits. Its function is to monitor the dial tone, DTMF tone, response signals, etc. over the speaker. It also sounds the output of the key touch tones, alarm tones, etc. from the panel CPU over the speaker. The received signal from the LCU PCB passes through an AGC circuit (IC26, Q7, Q8) and is then input to the analog switch for volume control. It passes through the operational amplifier (IC26) and is then input to the speaker amplifier (Q18,19), where it is amplified to a level sufficient to drive the speaker. The volume can be set in 9 steps (including OFF) from the panel.

Key touch tones, etc. from the panel are mixed by the operational amplifier (IC26) and input to the speaker amplifier. The key touch tones and alarm tones can be set to one of three levels, High, Low, or Off, with analog switch IC30.

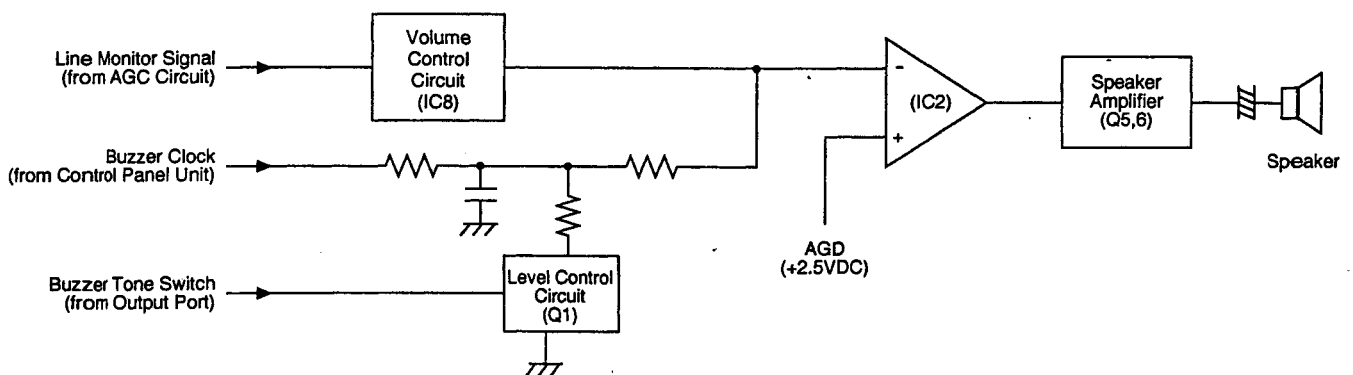


Line Monitor Circuit  
Block Diagram

### 6.2.6.2 Line Monitor Circuit (UF-880)

The Line Monitor Circuit consists of an operational amplifier (IC2), analog switch (IC8), speaker amplifier (Q5,6) and its peripheral circuits. Its function is to monitor the dial tone, DTMF tone, response signals, etc. over the speaker. It also sounds the output of the key touch tones, alarm tones, etc. from the panel CPU over the speaker. The received signal from the LCU PCB passes through an AGC circuit (IC2, Q3, Q4) and is then input to the analog switch for volume control. It passes through the operational amplifier (IC2) and is then input to the speaker amplifier (Q5,6), where it is amplified to a level sufficient to drive the speaker. The volume can be set in 9 steps (including OFF) from the panel.

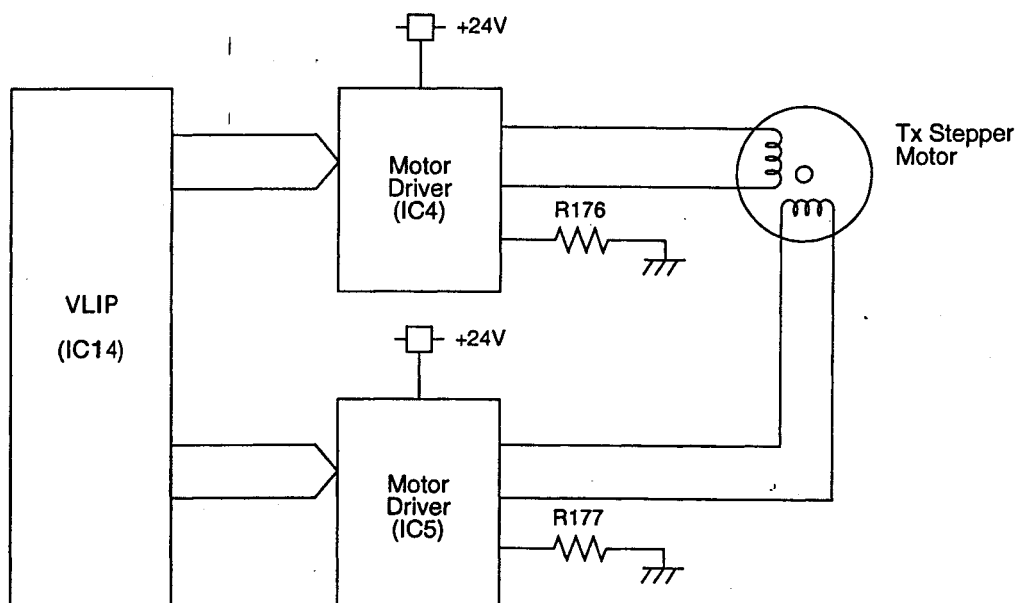
Key touch tones, etc. from the panel are mixed by the operational amplifier (IC2) and input to the speaker amplifier. The key touch tones and alarm tones can be set to one of three levels, High, Low, or Off, with transistor Q1.



Line Monitor Circuit  
Block Diagram

### 6.2.7 Transmit Motor Control Circuit

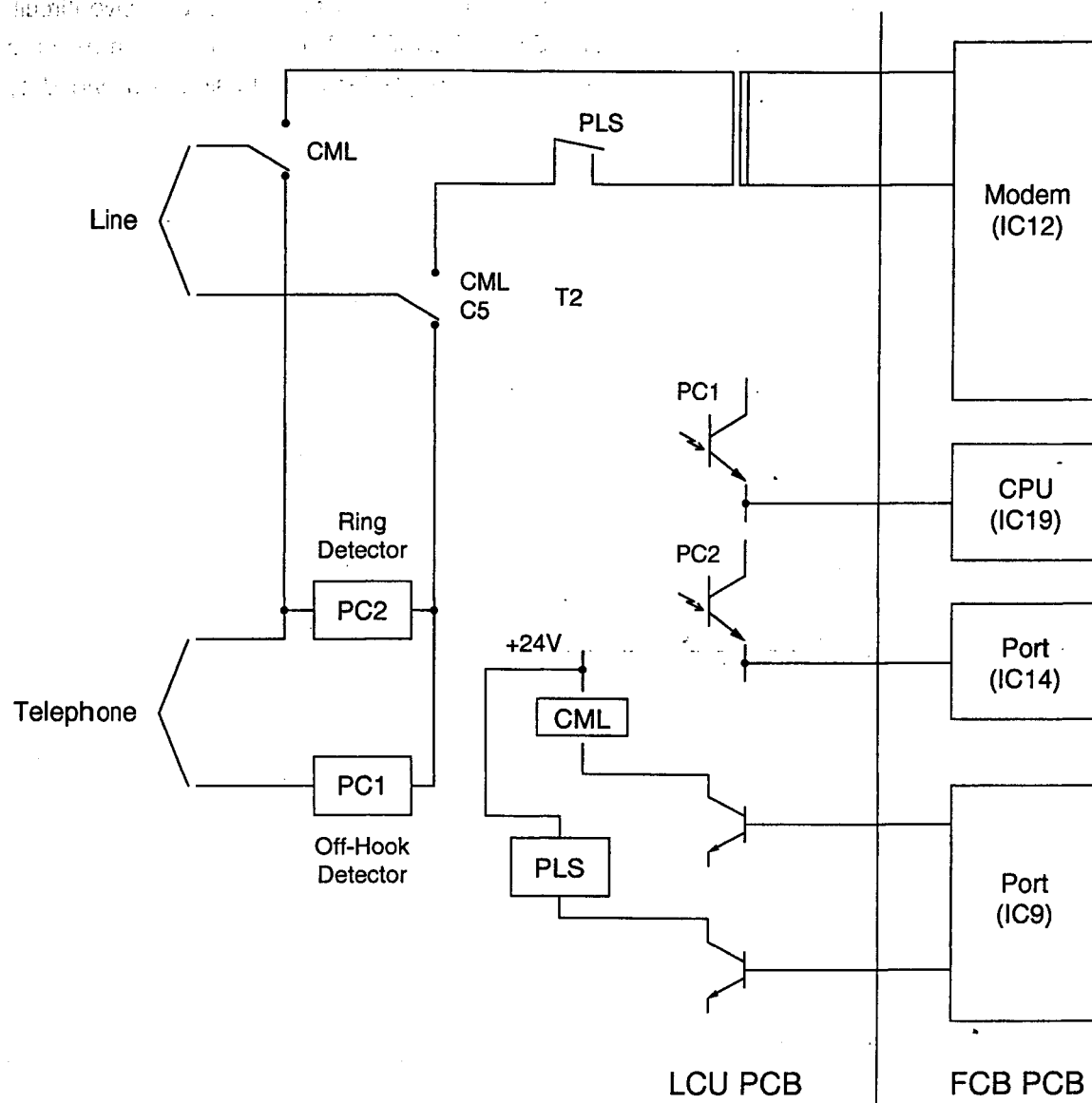
The transmit motor is a Hybrid type, two-phase bi-polar motor. The stepping signal and chopping current control signals (pTAPH, pTBPH, pTAI0, pTAI1, pTBI0 and pTBI1) are sent to the chopper drive circuit, comprised of IC4, IC5 and its peripheral circuitry, from IC14 (DZZNS58127) output port. The motor is powered by +24 VDC and is driven by a 1/2-phase excitation, and greater step division is provided by controlling the phase circuit in steps (micro-step control).



Tx Motor Driver Circuit Block Diagram

### 6.2.8.1 Line Control Board (UF-770)

The following shows a block diagram of the Line Control Board.

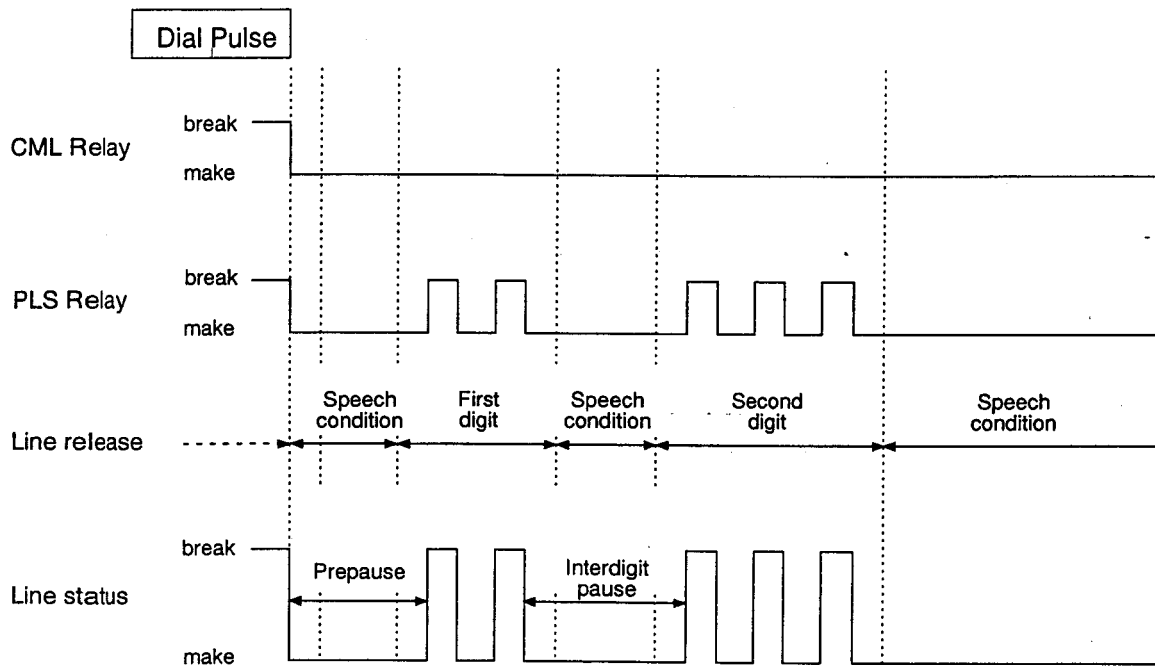


The **Ring Detector** consists of a photocoupler, PC2, and its peripheral circuits. The ringing signal is a half-wave rectifier in the Ring Detector, and transferred through the nCTON signal line to the CPU on the FCB PC Board. The CPU observes the signal to distinguish from signals caused by chattering.

The **Off-Hook Detector (External Telephone)** circuit consists of the photocoupler, PC1, and its peripheral circuits. When PC1 detects loop current flow, it emits a Low active output signal (nHKOF) to the CPU which monitors it for a specified time. If the CPU detects no change in the Low signal level, it determines that the External Telephone is Off-Hook.

### Dial Pulse Generator (UF-770)

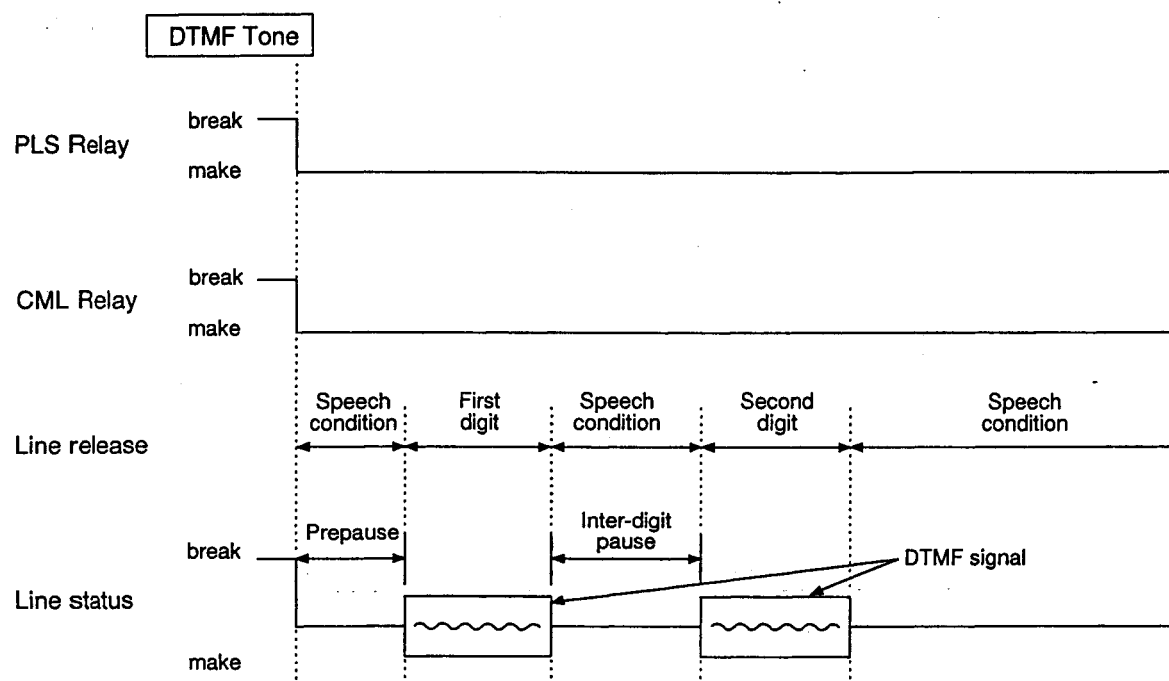
The circuit consists of the CML relay, PLS relay and their peripheral circuits. This circuit generates dial pulses. The CPU on the FCB PC Board controls all dial pulse generation sequences. It turns relay CML and PLS ON and OFF through the MN86074 (IC9). The status of the relays during dialing is shown below. When the absence of the terminating message is confirmed by the Off-Hook detector, the CPU turns CML relay ON to develop loop status (DC loop). After a few seconds, the CPU turns the PLS relay On and Off to generate dial pulses, making and breaking the loop.





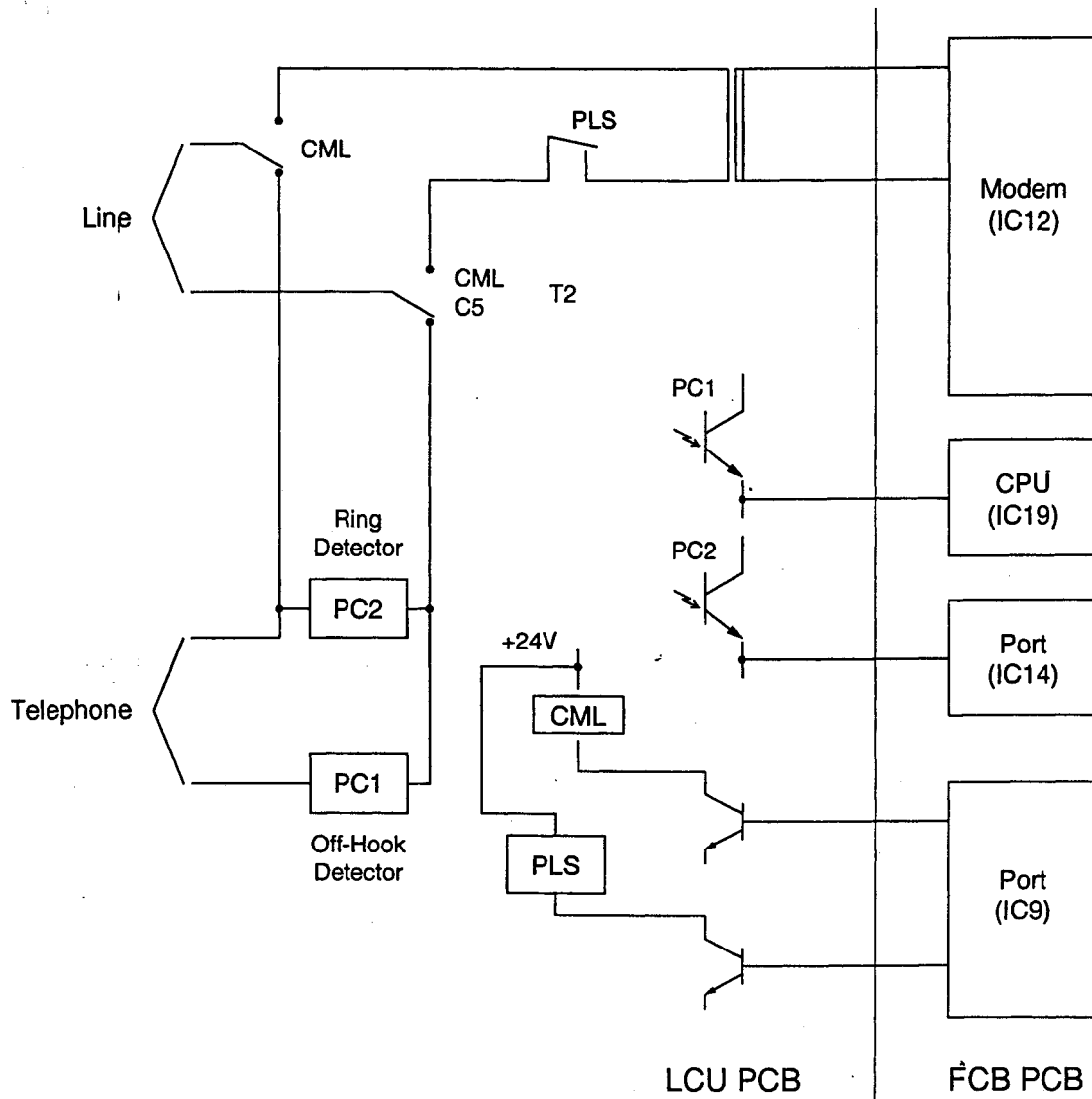
### DTMF Tone Generator (UF-770)

The circuit is incorporated in the MODEM on the FCB PC Board. The DTMF tone is conveyed to the telephone line using the same route as the facsimile signal. The DTMF tone selection is controlled by the CPU. The relay status during dialing is shown below.



### 6.2.8.2 Line Control Board (UF-880)

The following shows a block diagram of the Line Control Board.

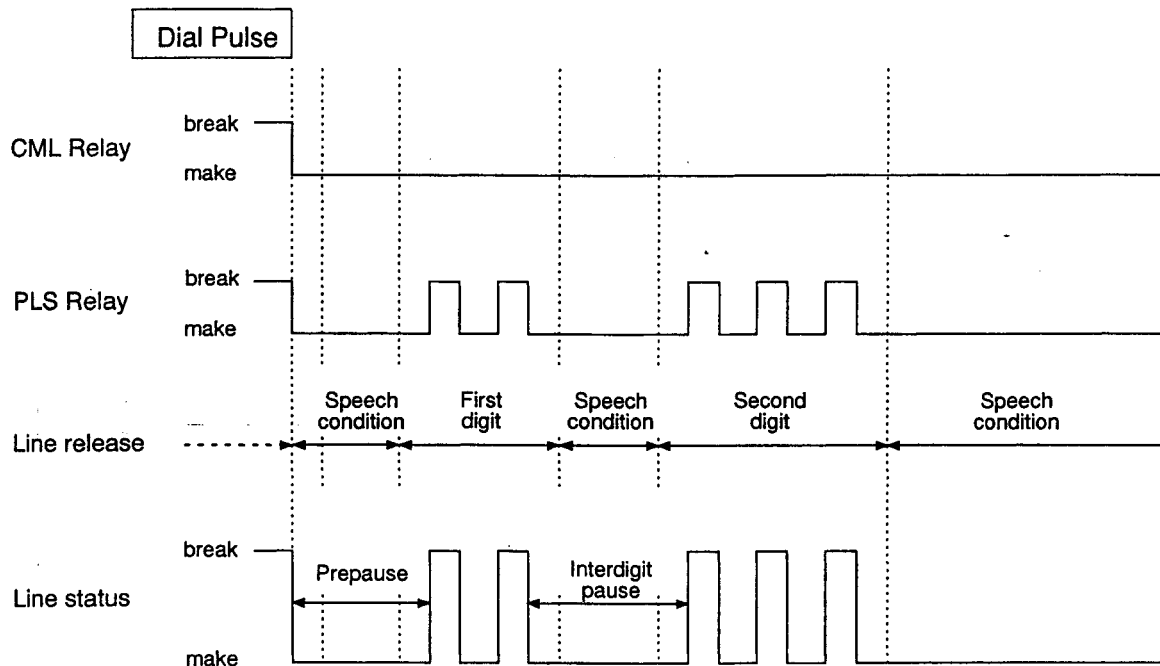


The **Ring Detector** consists of a photocoupler, PC2, and its peripheral circuits. The ringing signal is a half-wave rectifier in the Ring Detector, and transferred through the nCTON signal line to the IC13 on the MDM PC Board. The IC13 observes the signal to distinguish from signals caused by chattering.

The **Off-Hook Detector (External Telephone)** circuit consists of the photocoupler, PC1, and its peripheral circuits. When PC1 detects loop current flow, it emits a Low active output signal (nHKOF) to the IC13 which monitors it for a specified time. If the IC13 detects no change in the Low signal level, it determines that the External Telephone is Off-Hook.

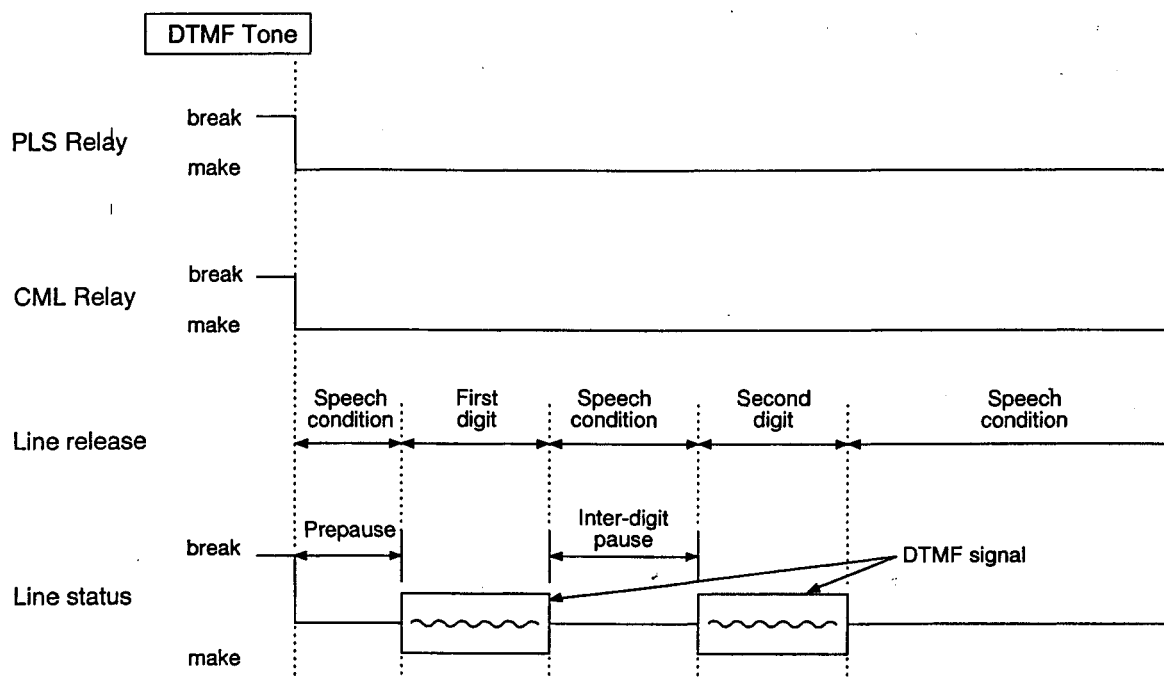
**Dial Pulse Generator (UF-880)**

The circuit consists of the CML relay, PLS relay and their peripheral circuits. This circuit generates dial pulses. The IC13 on the MDM PC Board controls all dial pulse generation sequences. It turns relay CML and PLS ON and OFF through the EPP (IC13). The status of the relays during dialing is shown below. When the absence of the terminating message is confirmed by the Off-Hook detector, the IC13 turns CML relay ON to develop loop status (DC loop). After a few seconds, the IC13 turns the PLS relay On and Off to generate dial pulses, making and breaking the loop.



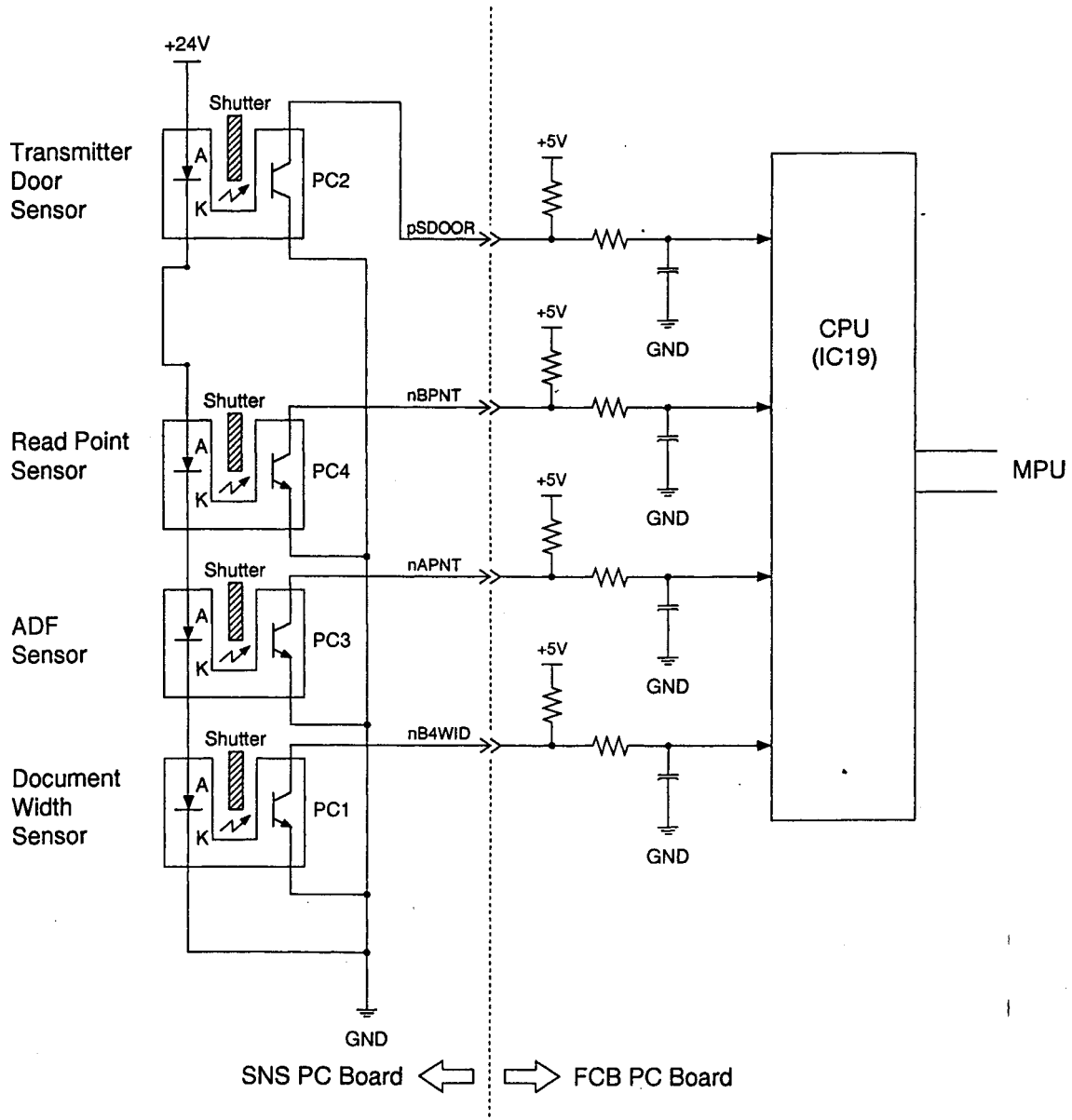
### DTMF Tone Generator (UF-880)

The circuit is incorporated in the MODEM on the MDM PC Board. The DTMF tone is conveyed to the telephone line using the same route as the facsimile signal. The DTMF tone selection is controlled by the IC13. The relay status during dialing is shown below.



### 6.2.9 SNS PC Board

Each sensor consists of an LED and phototransistor. When documents are placed on the ADF tray or are moving, a shutter in the document sensor opens. The light from the LED turns the phototransistor "ON", and the output voltage from the sensor becomes a "Low" level. With no document on the ADF tray, the shutter interrupts the light path, and output from the sensor is kept at a "High" level. Operation of the WID Sensor and RP Sensor is exactly the same as the ADF Sensor. The Tx Door Sensor operation is similar, except that the output from the sensor is kept at a "Low" level when the door is closed and becomes "High" when the Tx Door is opened.



### 6.2.10 Control Panel

The Control Panel consists of the Display PCB and Panel PCB, which display various status information. It is normally interfaced to the main CPU. Keyed input signals are received by the Panel CPU and the data is transferred to the main CPU on the FCB PC Board.

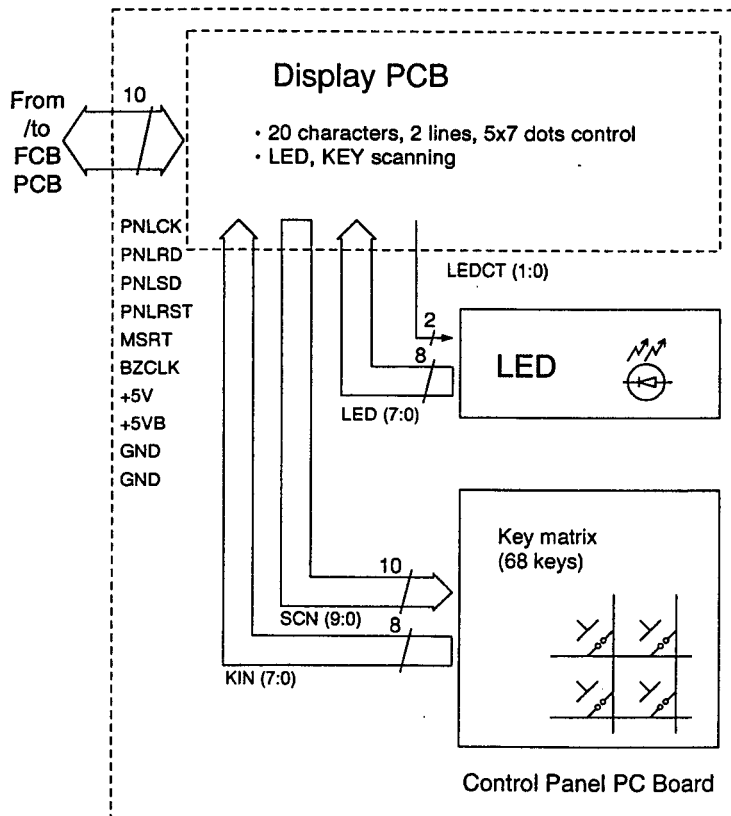
The control panel performs the following processes simultaneously :

- Key inputting
- LED, LCD display
- Data transmission / reception

Interface to main CPU

The interfacing between the main CPU and the panel CPU are all executed with commands and responses in the following two formats :

- Command / response (1 byte) + number of data + check sum.
- Command / response (1 byte) + number of data + data 1 + data 2 ..... + data n + check sum.

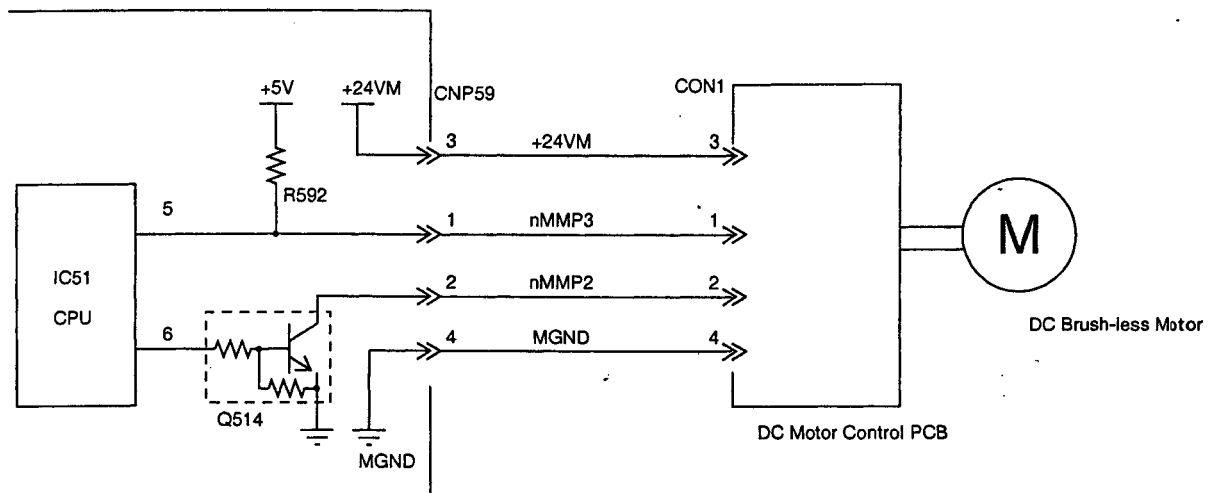


## 6.2.11 Printer Motor Driver Circuit

### Motor Drive Circuit

The Printer Motor is a Brush-less DC motor. When the nMMP2 signal level goes Low, the Printer Motor starts rotating. When the Printer Motor reaches a constant speed, the monitor feed back signal, nMMP3 goes Low and is fed back to the CPU which controls the printing process.

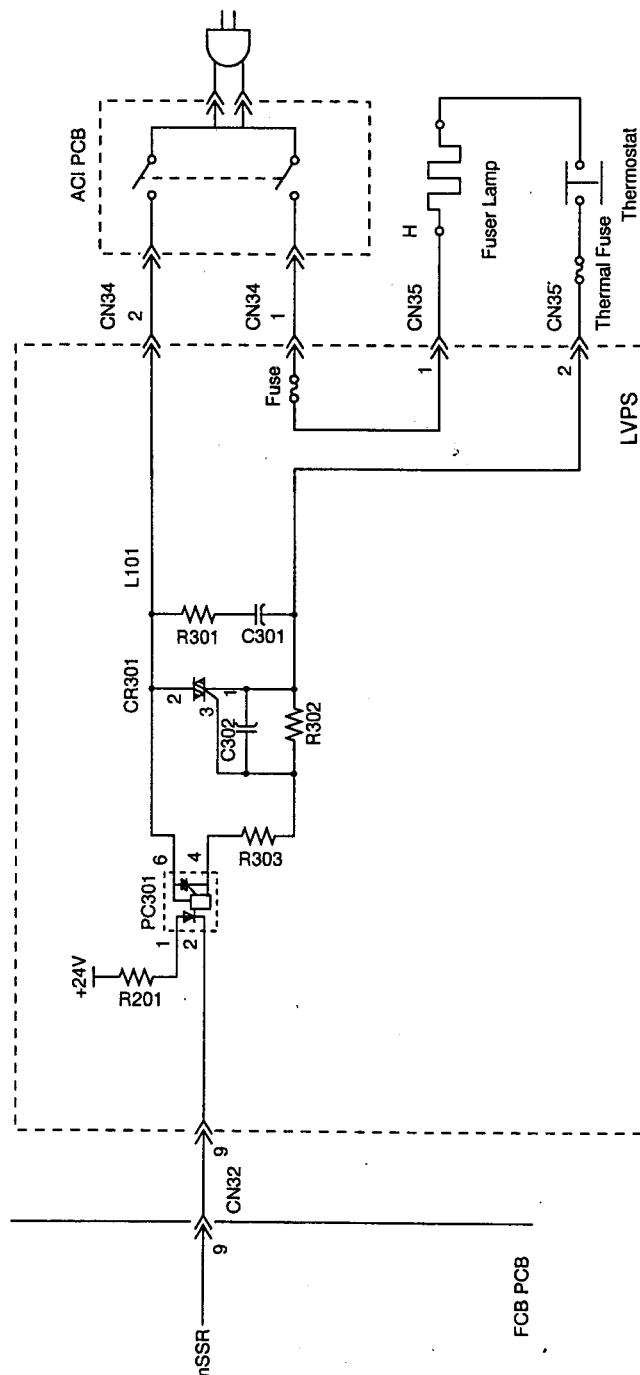
The Printer Motor is powered by a +24 VDC supply. When the interlocks are open, the +24 VDC supply is cut off and the Printer Motor stops rotating.



Laser Printer Motor Drive Circuit Block Diagram

### Fuser Lamp Drive Circuit

The Fuser Lamp is powered by 115 VAC. It is driven by the LVPS and controlled by the nSSR signal from the FCB PC Board. When the CN32, Pin 9 (nSSR) on the LVPS goes LOW, the Fuser Lamp turns ON. This lights up the PC301 LED and activates the CR301 photo-triac, and 115 VAC is sent to the Fuser Lamp. The time at which CR301 is actually activated depends on the 115 VAC sine wave. When the cross-voltage for Pin 6 and Pin 4 of PC301 is other than 0 Volts (sine wave exceeds 0 volts), PC301 inhibits the activation of the triac and turns ON the Fuser Lamp.



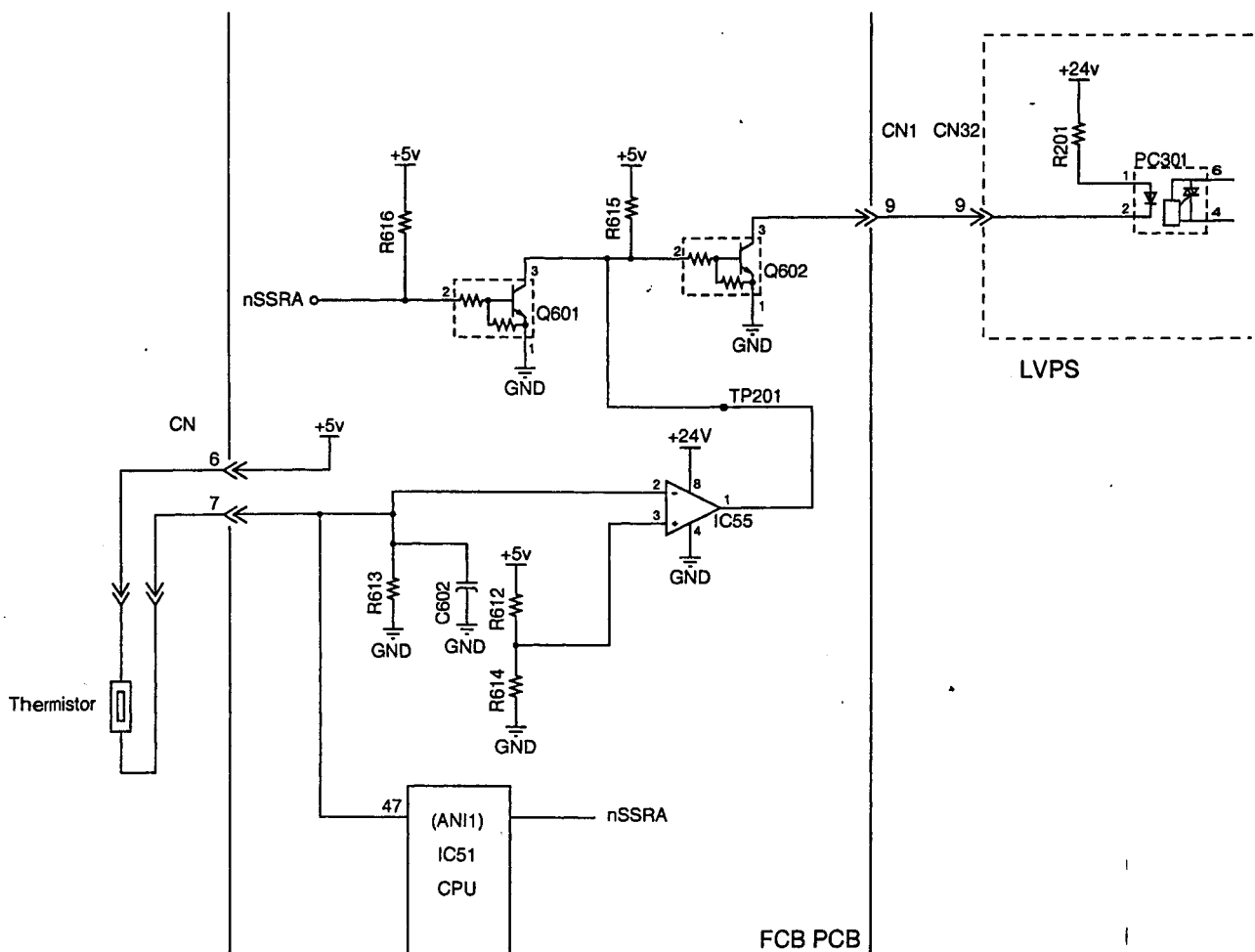
Fuser Lamp Drive Circuit Diagram



### Fuser Temperature Control Circuit

The fuser temperature is controlled by IC51 on the FCB PC Board, which contains A/D (Analog/Digital) converters ANI0 and ANI7. The Fuser Temperature Control Circuit uses A/D converter, ANI1. When the PC301 drive current is transmitted from the FCB PC Board to the LVPS, the Fuser Lamp turns ON. IC55 is a converter with open output at pins 1 and 7 and is used as an abnormal temperature detection circuit. IC55, pin 1, has a high impedance when Q602 is activated, turning ON the Fuser Lamp. An abnormal temperature is detected when the VTH voltage level becomes higher than V+, forcing IC55, pin 1 Low and deactivating Q602.

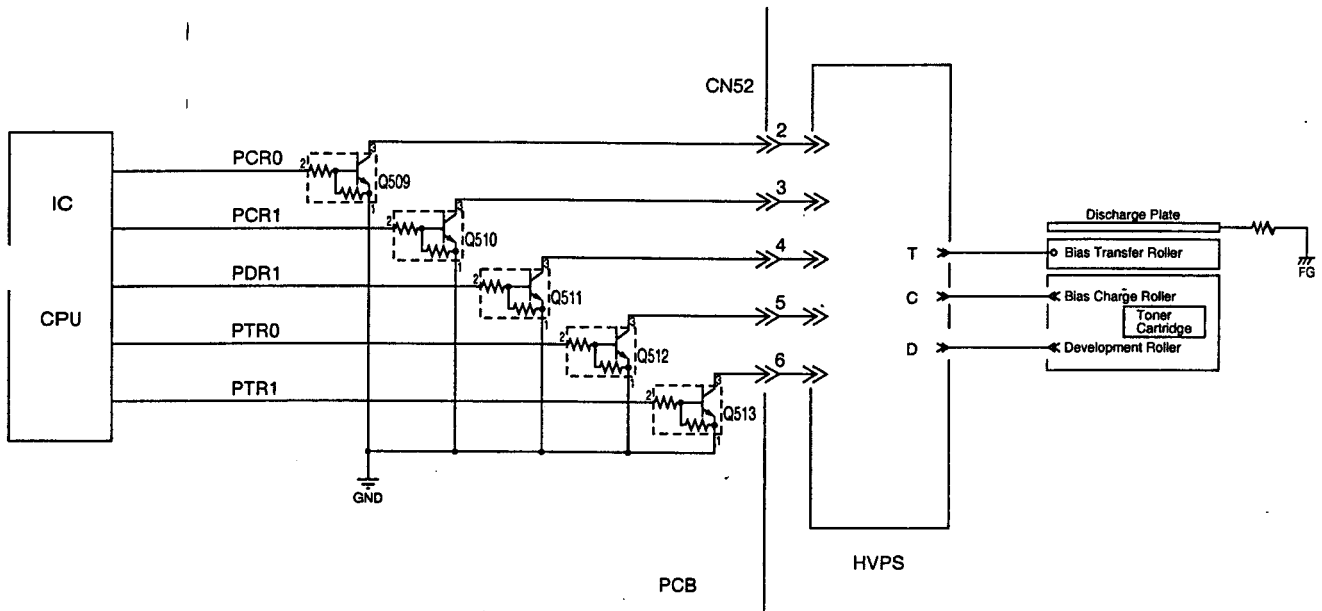
Abnormally low and high temperatures, as well as Thermistor release status, are detected by IC51 (CPU) programming.



Fuser Temperature Control Circuit Diagram

### High Voltage Drive Circuit (Charging, Development and Transfer)

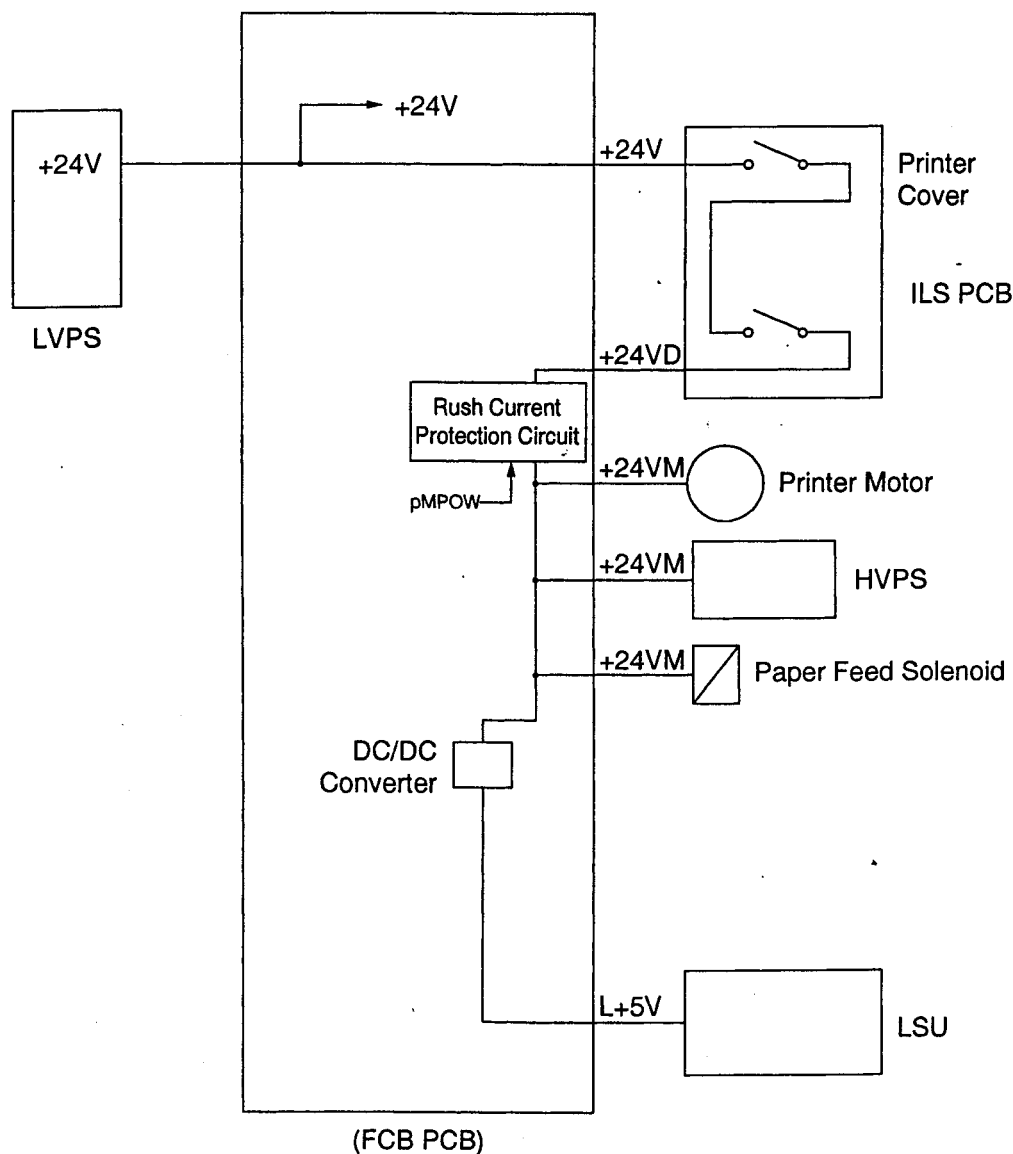
High Voltage is provided through a DC to DC converter, which changes the +24 VDC supply voltage to -610 VDC, and output approximately 0.72 KVAC (Steady current : 450  $\mu$ A) for the Charging Block. The Developer Circuit converts the +24 VDC to between -500 VDC for the development bias, and outputs 1,500 VAC<sub>(p-p)</sub> at a frequency of 1.7 kHz to charge the toner. The Transfer Circuit changes the +24 VDC supply voltage to approximately +600 VDC (steady current: 3.0  $\mu$ A/-800 VDC steady voltage).



High Voltage Drive Circuit

### 6.2.12 Interlock Safety Circuit

This safety circuit turns OFF the +24 VDC supply voltages when the Printer Cover is opened. When the Printer Cover is opened, the microswitch(es) on the ILS PC Board are de-actuated, turning OFF +24 VDC to the Printer Drive Circuit, the HVPS, and the Paper Feed Solenoid Circuits, turning OFF the +5 VDC supply voltage for the Laser Driver Circuit on the Laser Unit.



Interlock Safety Circuit Block Diagram

### 6.2.13 LSU Control Circuit

The laser control signals are described below.

#### nLDON

The LSU is activated when this output signal is LOW. If an error occurs, the nLDON output signal level goes High and the LSU is deactivated.

#### nVIDEO

This is the actual Data Signal. The Laser is ON when the nVIDEO output signal level is LOW.

#### nHSYNC

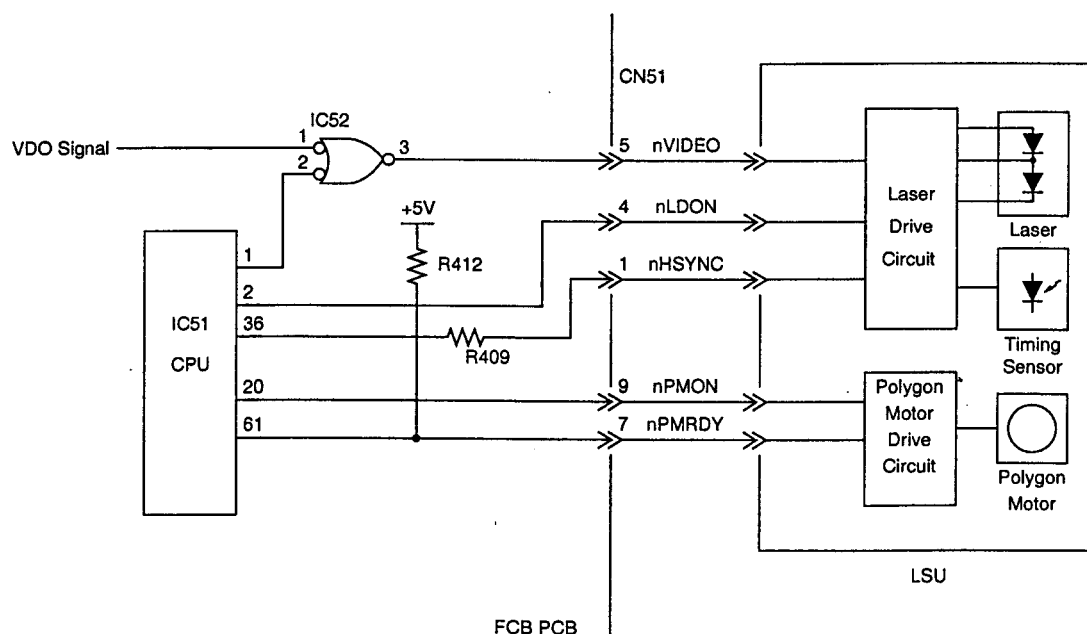
This horizontal synchronization signal transmitted from the Beam Detection Sensor sets the horizontal position of the laser beam as it crosses the OPC Drum.

#### nPMON

This is the Polygon Motor Control Signal. The Polygon Motor rotates when the nPMON output signal level is LOW.

#### nPMRDY

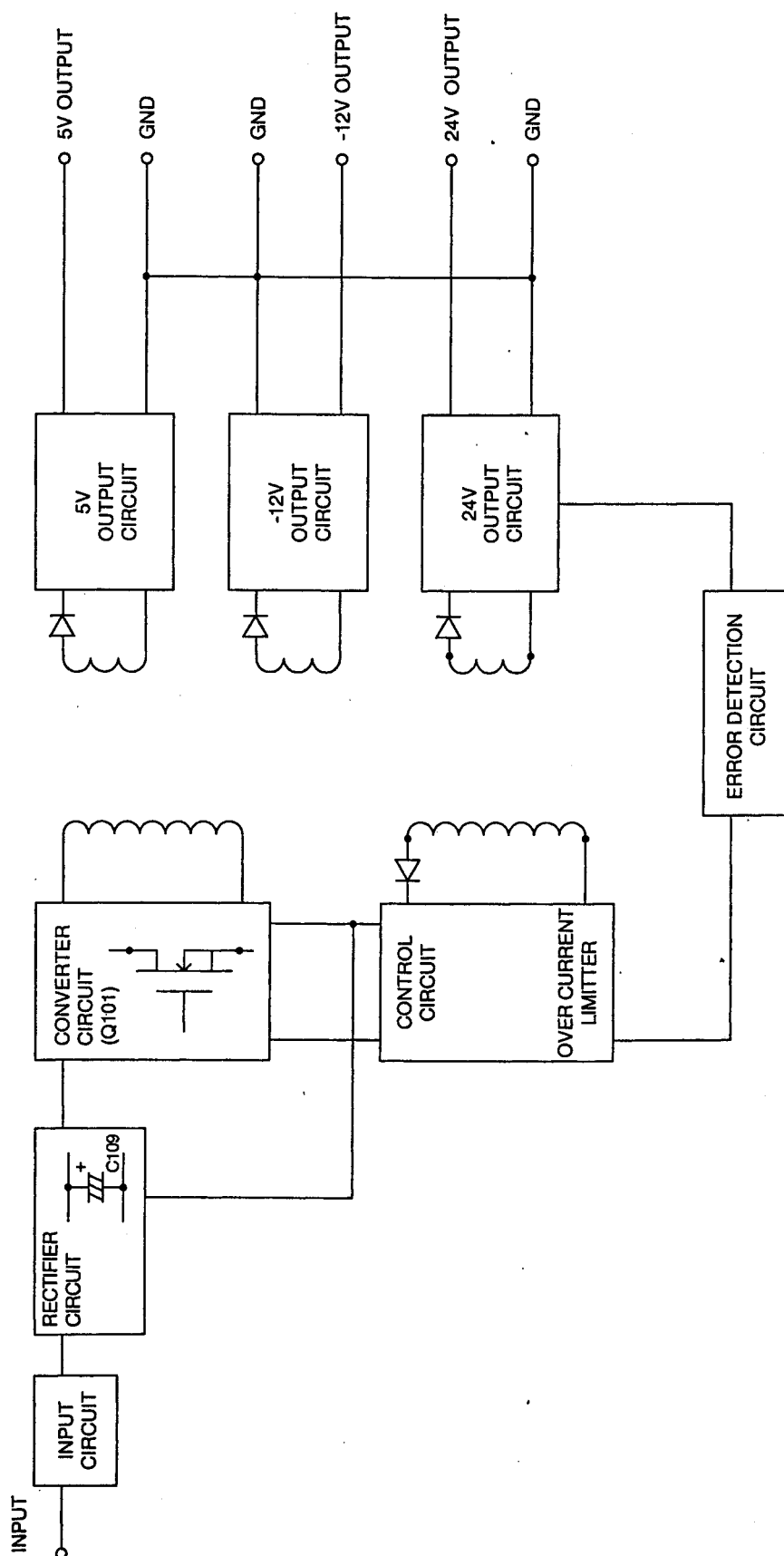
A Phased-Lock Loop (PLL) circuit keeps the Polygon Motor speed constant at 5,000 rpm when the nPMRDY is at a Low output signal level.



Laser Unit Control Circuit Block Diagram

## 6.2.14 Power Supply Unit (LVPS)

### Block Diagram of ETXDN036A4C



## ETXDN036A4C (115V)

### Input Filter Circuit

AC line voltage travels to the rectifying circuit through the line filter. The line filter eliminates RFI noise which may otherwise pass to the AC line from the power supply unit. It also protects the power supply unit from transient noise which may pass into the unit from the AC line.

### Rectifying and Smoothing Circuit

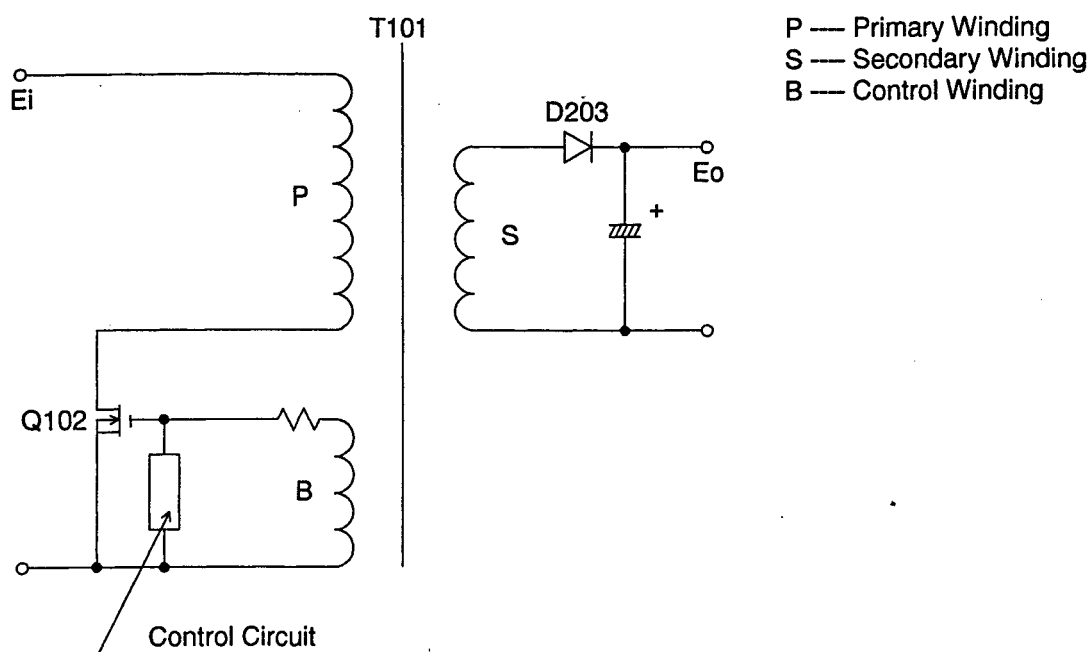
As soon as power is applied to the Power Supply Unit, AC line voltage is rectified by D101 and is smoothed by capacitor C107. The protection circuit at the time of startup is controlled by an IC (MC101) and resistors R107, R108 and R109.

### Inrush Current Protection Circuit

When the capacitor C107 is not charged by the AC input, an inrush current, or current surge, appears at the input side. Power thermistor TH101 limits the inrush current.

### Converter Circuit

A hybrid IC (MC101), in combination with transformer T1, form a switching power supply circuit using the RCC (Ring Choke Converter) system.



### Main Switching Circuit

In the above circuit, when the main switching transistor, Q102, is turned On, input voltage, Ei, is supplied to the primary winding of transformer T101. However, no current will flow through diode D203 of the secondary side, due to reverse polarity of the secondary winding causing no current flow within T1. But the transformer charges with energy. When Q102 is turned Off, the supply voltage to the primary winding shuts off and the windings of T101 change polarity, allowing D203 to conduct, releasing the energy accumulated in T101 to the circuit. When the energy is discharged through D203, Q102 turns on, once again reversing the polarity on T101 windings, creating a self-oscillation circuit.

The value of output voltage is

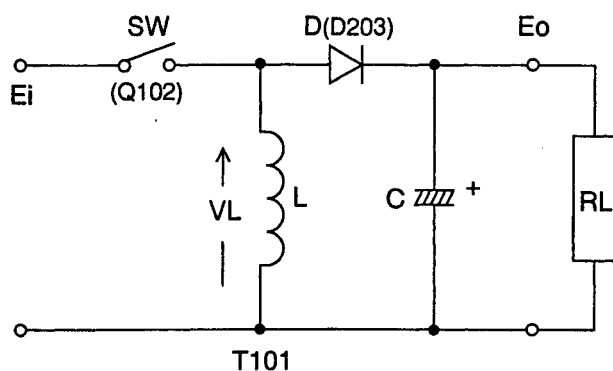
$$E_0 = d / (1 - d) * E_i$$

$$d = T_{on}/T_s$$

**Equivalent circuit model for the RCC.**

Ton : ON TIME OF Q102

**T<sub>s</sub> : PERIOD OF OSCILLATION**



In the equivalent circuit ; When SW is on, current flows

SW  $\rightarrow$  L

**When SW is off, current flows**

$$L \rightarrow D \rightarrow RL$$

The value of inductance increase current between on period. ( $d \cdot T_s$ )

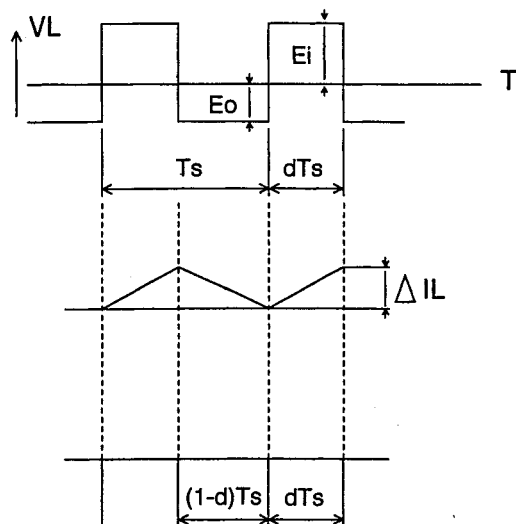
$$I_L = E_i / L \cdot d \cdot T_s \dots\dots\dots (1)$$

The value of inductance decrease current between off period (  $(1-d) \cdot T_s$  )

$$I_L = E_0/L (1-d) \cdot T_s \dots\dots\dots (2)$$

From equation (1) and (2),

$$E0 = d / (1 - d) * Ei$$



In the actual circuit, the fixed output voltages are obtained by changing the winding ratio of transformer T101. In this converter circuit, the output voltages are stabilized by controlling the duty cycle of the ON and OFF timing of the transistor. In this power supply, the bias winding is built into the transformer. The power supply has three outputs, +24 VDC, -12 VDC and +5 VDC. The +24 VDC output is protected by the Error Detection Circuit, and the +5 VDC and -12 VDC outputs are protected by the circuitry inside of the voltage regulator IC.

### **Control Circuit and Error Detection Circuit**

The control circuit amplifies the output of the duty cycle according to the error voltage detected by the Error Detection Circuit, and drives the main transistor Q102. The method used to change the duty cycle is to change the ON time period. When the output voltage of the +24 VDC circuit rises, the current of photocoupler PC101 increases, the output pulse width of the control circuit decreases and the ON time period of Q102 decreases. This control circuit decides the minimum OFF time period by itself. When the oscillation frequency becomes higher and the OFF time period becomes minimum, the OFF time period remains unchanged and only the ON time period decreases. This way, there is a upper limit of the oscillation frequency and the duty cycle is expanded.

### **Over Current Limiter**

The +24 VDC output is limited by Ton MAX Limiter (ON time period of transistor Q102) which is part of the control circuit. The +5 VDC and -12 VDC outputs have over current limiters provided inside the voltage regulator.



**Notes**

## Chapter 7

### Exploded View & Parts List

| Country Code | Country         | Country Code | Country                |
|--------------|-----------------|--------------|------------------------|
| AA           | Austria         | AQ           | Ireland                |
| AB           | U.K.            | AR           | Belgium                |
| AD           | Denmark         | AS           | Sweden                 |
| AE           | Taiwan          | AT           | Turkey                 |
| AF           | Finland         | AU           | Puerto Rico            |
| AG           | German          | AV           | France                 |
| AH           | The Netherlands | AW           | New Zealand            |
| EE           | Italy           | YC           | Universal 200V Version |
| AJ           | Spain           | YG           | Greece                 |
| AK           | Hong Kong       | YJ           | Czecho                 |
| AL           | Australia       | YM           | Malaysia               |
| AM           | Switzerland     | YT           | Thailand               |
| AN           | Norway          | YW           | South Africa           |
| AP           | Portugal        | YX           | Singapore              |

(This parts list is provisional issue for each countries. Please contact local Panasonic company to get correct part number.)

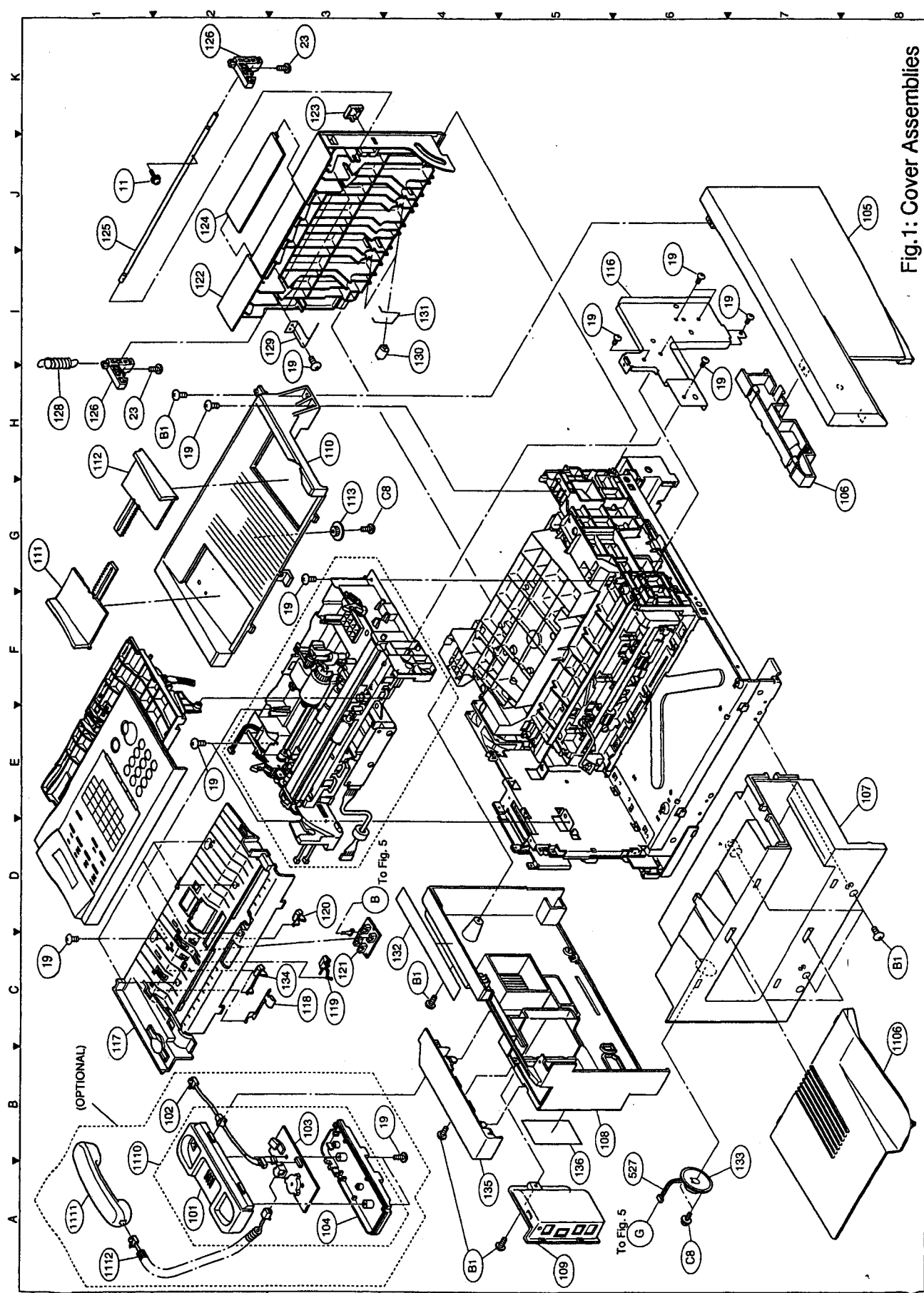
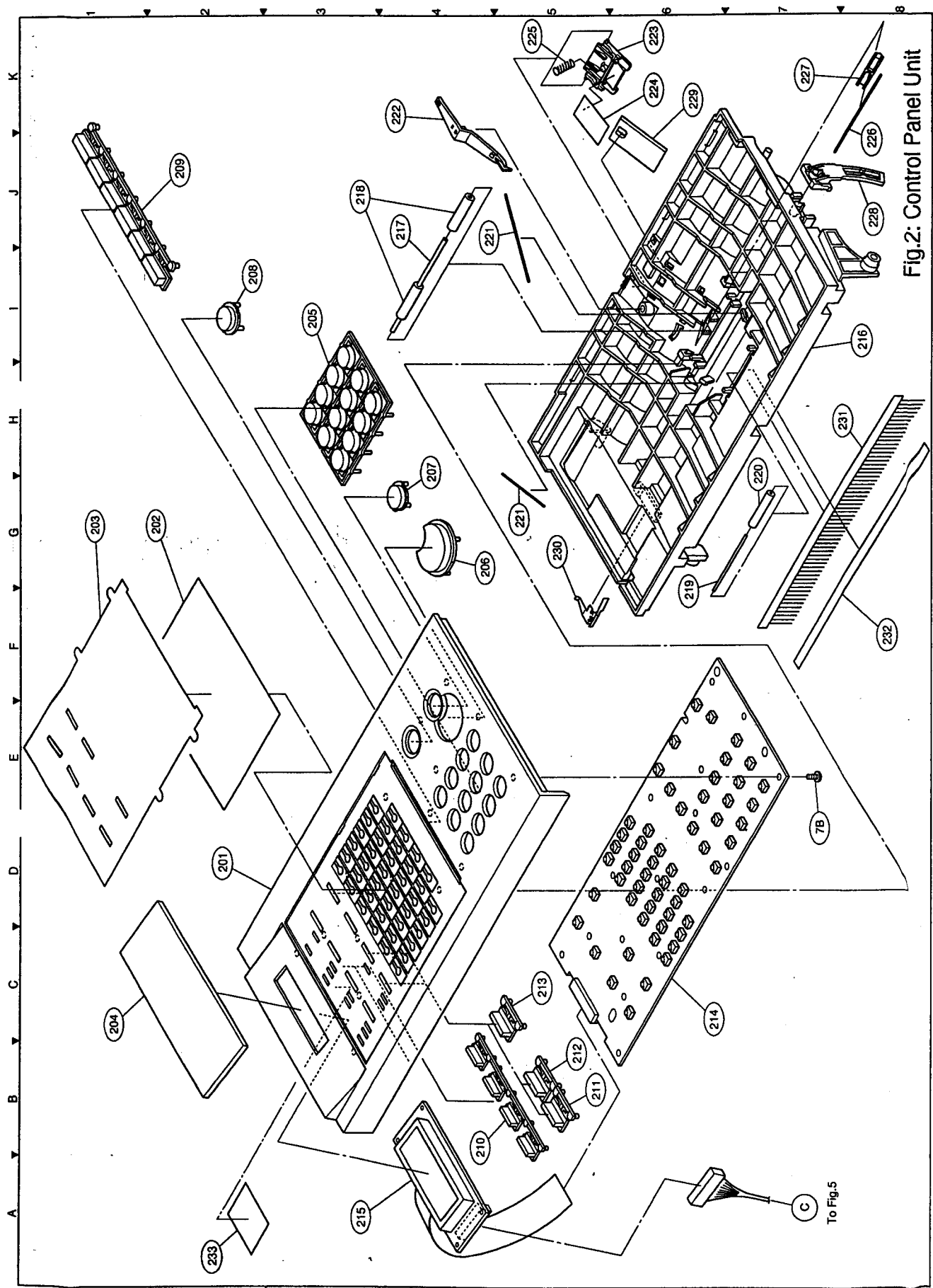


Fig. 1: Cover Assemblies





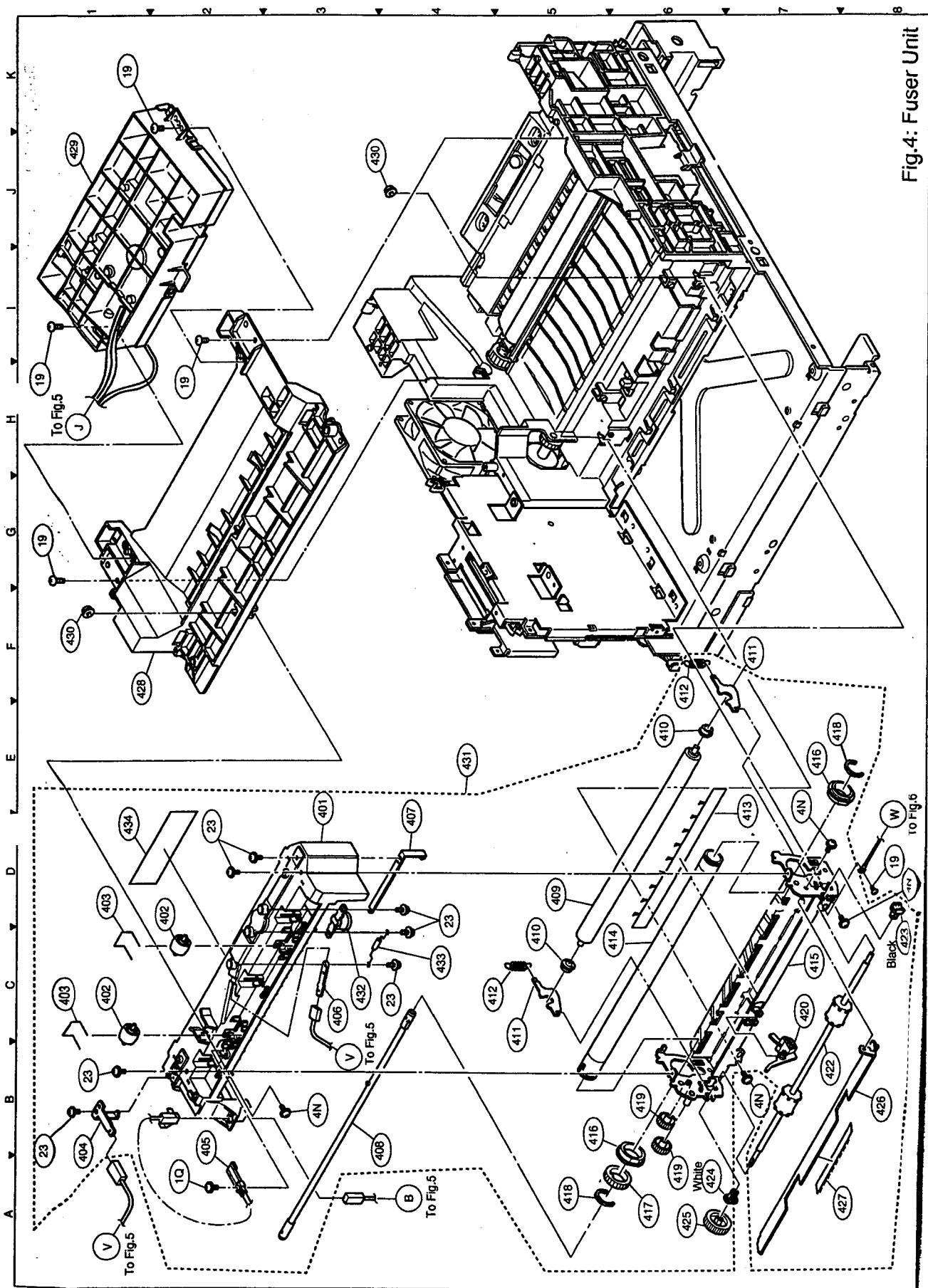


Fig.4: Fuser Unit

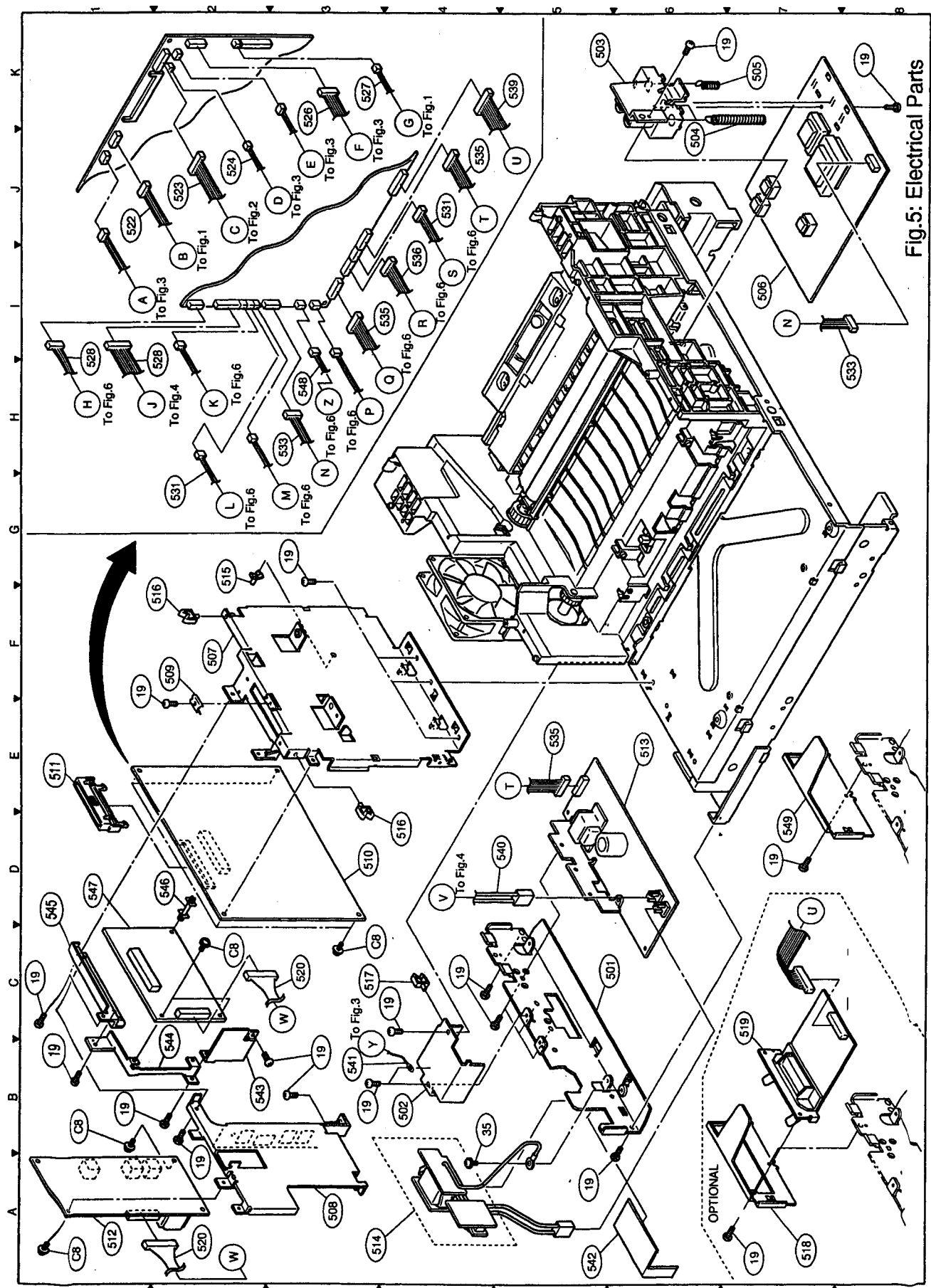


Fig.5: Electrical Parts

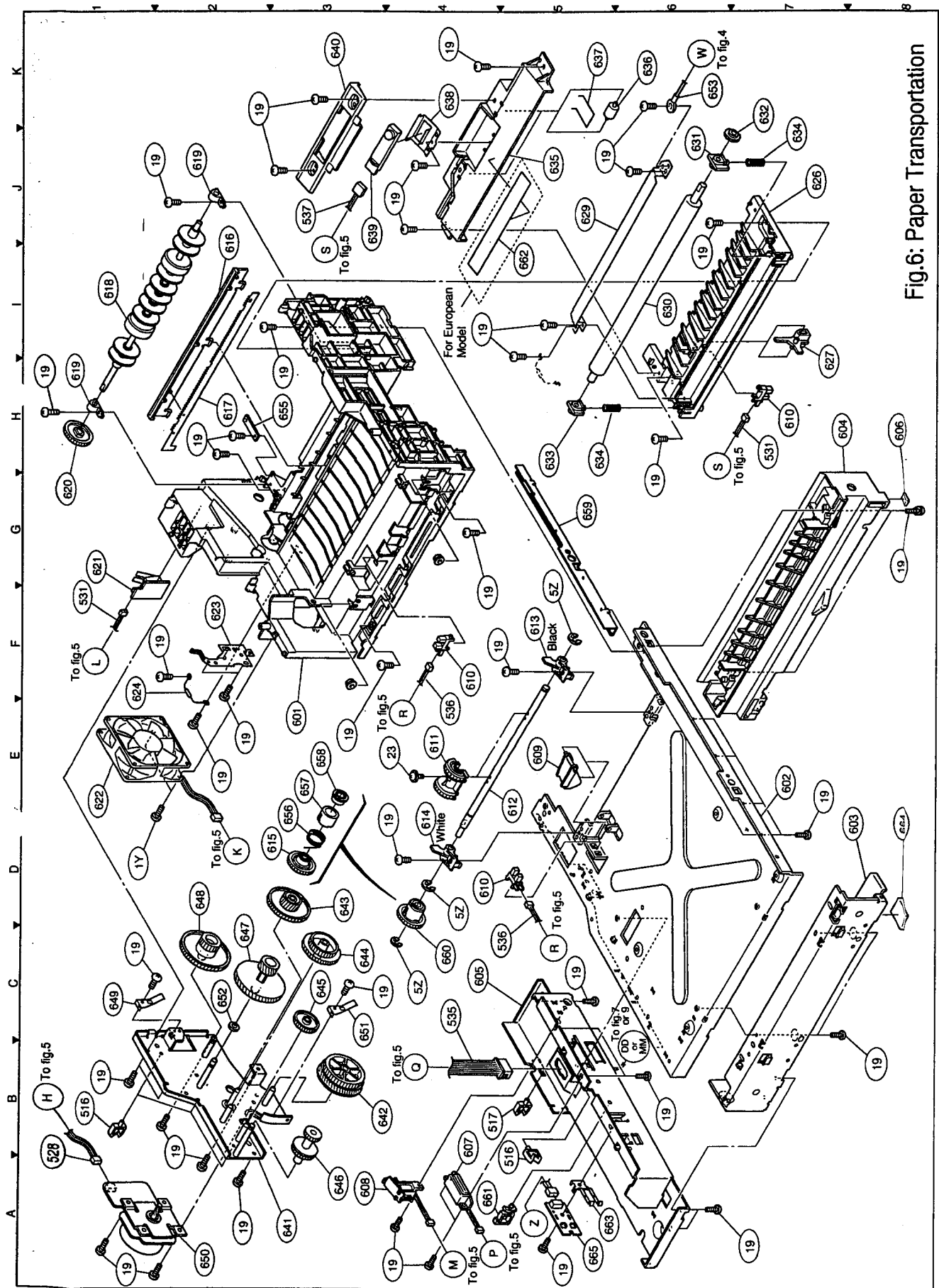


Fig. 6: Paper Transportation



**Fig.7: 250 Feeder Unit**

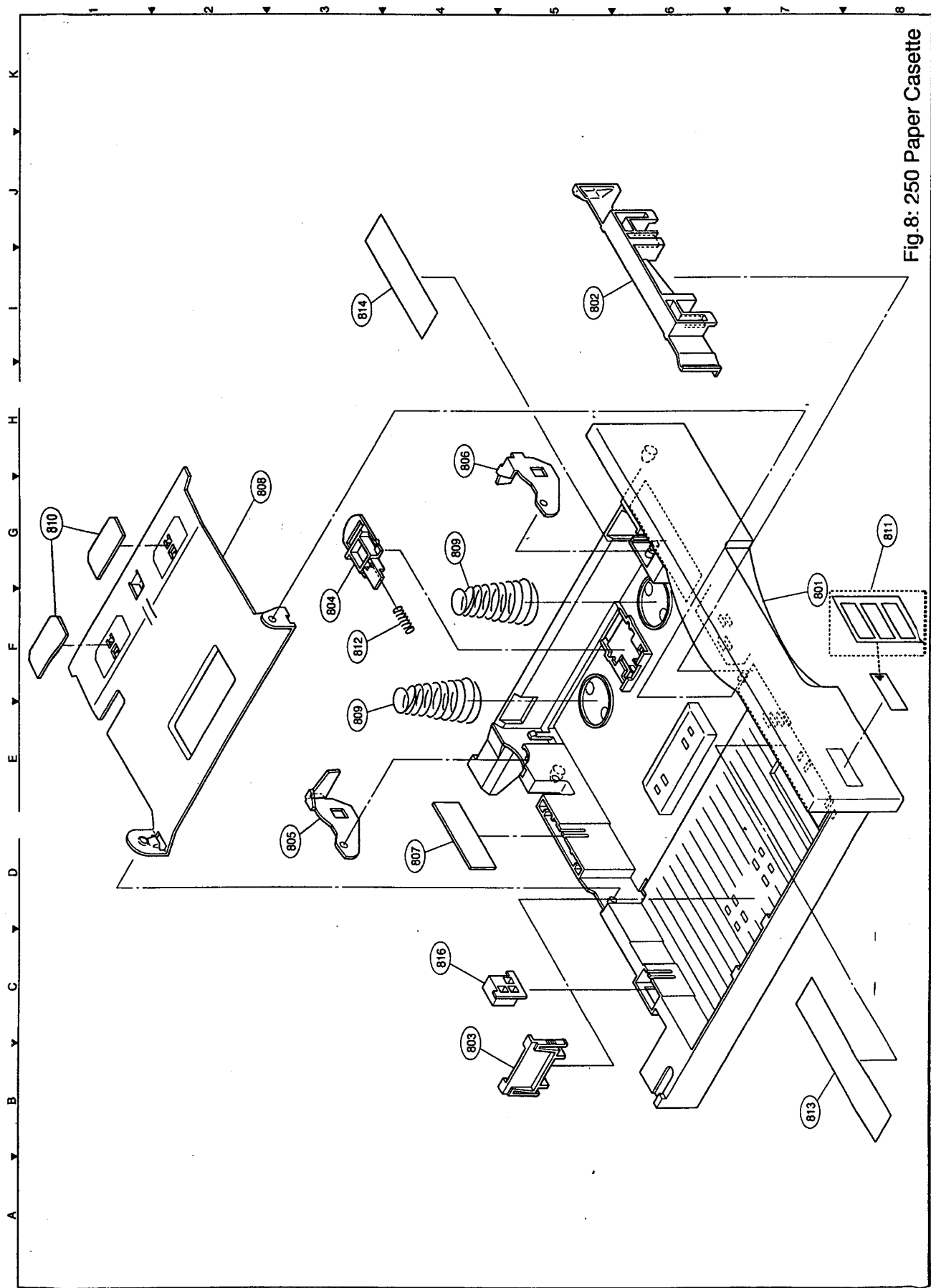


Fig. 8: 250 Paper Cassette

Fig.9: 500 Feeder Unit

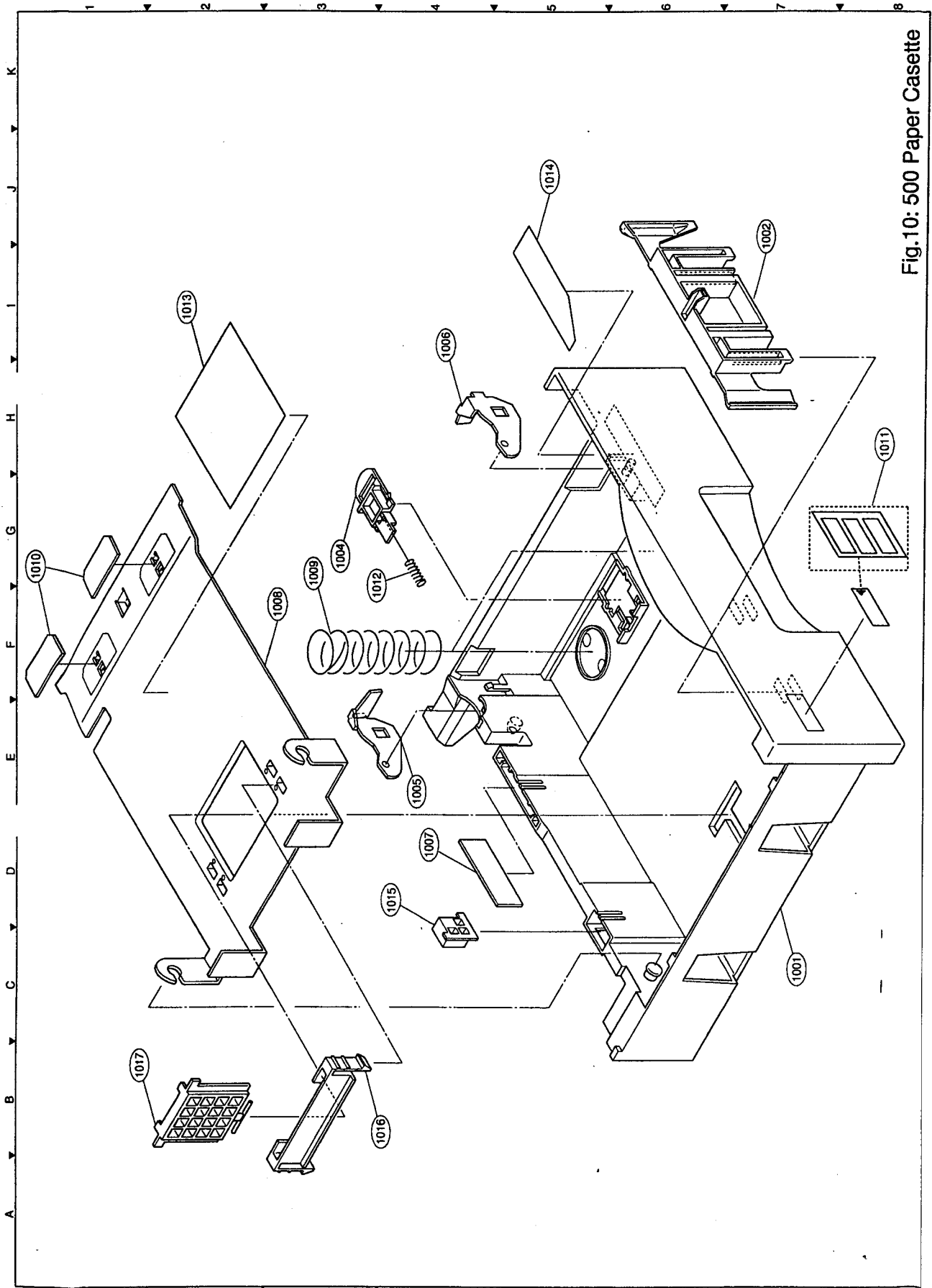


Fig.10: 500 Paper Cassette

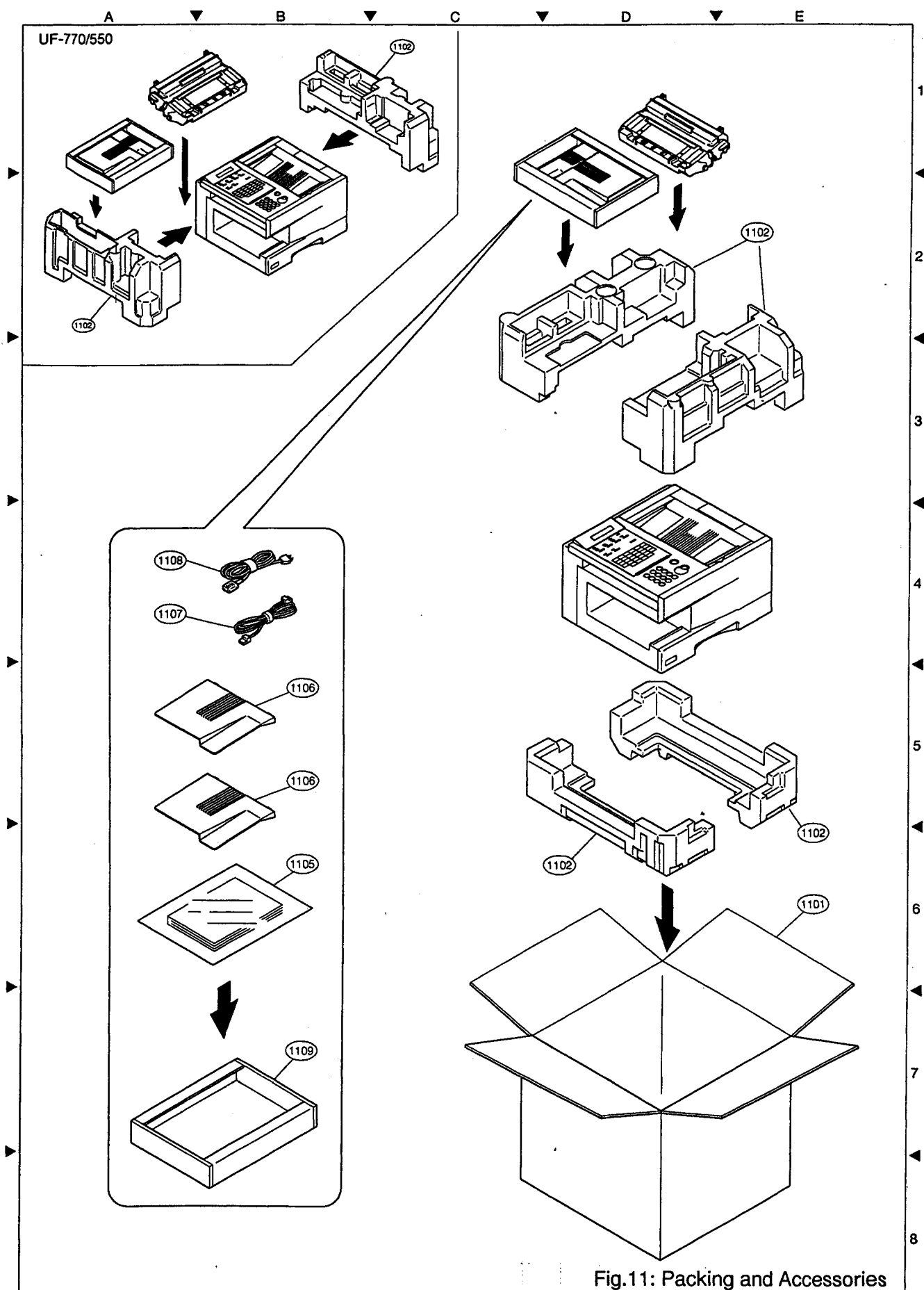


Fig.11: Packing and Accessories

### 7.1 Cover Assemblies (1/2)

[illegible]

## Cover Assemblies (2/2)

| Ref<br>NO | Part No.    | Part Name                 | 880 |    |    |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    |    |    | Location |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------|-------------|---------------------------|-----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|           |             |                           | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD | AE | AF  | AG | AH | EE | AJ | AK | AL | AM | AN | AP | AQ | AR |          | AS | AT | AV | AW | YC | YD | YE | YF | YG | YH | YI | YJ | YK | YL | YM | YN | YO | YP | YQ | YR | YS | YT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 132       | DZNR0000820 | Label, Function (Italian) |     |    |    |    |    |    |    |    |    |    |    |    |     |    | 1  |    |    |    |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## 7.2 Control Panel Unit (1/2)

### Exploded View & Parts List

[illegible]



## Control Panel Unit (2/2)

| Ref No | Part No.   | Part Name                    | 880 |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    | Location |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |    |        |    |
|--------|------------|------------------------------|-----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|----|--------|----|
|        |            |                              | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD  | AE | AF | AG | AH | EE | AJ | AK | AL | AM |          |   | AN | AP | AQ | AR | AS | AT | AV | AW | YC | YG | YW | YX | YJ | YM | YT |   |   |   |   |   |   |   |   |   |   |    |        |    |
| 209    | DZKB000149 | Button, A                    | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2J |        |    |
| 210    | DZKB000150 | Button, B                    | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 4B     |    |
| 211    | DZKB000134 | Button, C-A                  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 5B     |    |
| 212    | DZKB000135 | Button, C-B                  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 5B     |    |
| 213    | DZKB000136 | Button, C-C                  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 5C     |    |
| 214    | DZYNA1543A | PC Board, Panel              | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 6C     |    |
| 215    | DZDA000008 | PC Board, Display            | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 3A     |    |
| 216    | DZJF000154 | Chassis, Control Panel       | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 8I     |    |
| 217    | DZLG000002 | Shaft, Pinch Roller          | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 4J     |    |
| 218    | DZLA000092 | Roller, Pinch                | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 3J     |    |
| 219    | DZKG000018 | Shaft, Roller 2              | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 6F     |    |
| 220    | DZLA000058 | Roller 2, Feed               | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 7G     |    |
| 221    | DZKR000008 | Spring, Wire, Pinch Roller   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 4J, 5G |    |
| 222    | DZKA000010 | Lever, Adjust                | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 4K     |    |
| 223    | DZJM000014 | Cover, Pre-Feed              | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 6K     |    |
| 224    | DZJM000072 | Film, Pre-Feed               | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 6K     |    |
| 225    | DZKN000076 | Spring, Coil, Pre-Feed Cover | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 5K     |    |
| 226    | DZKR000004 | Spring, Pressure Plate       | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 8J     |    |
| 227    | DZJM000013 | Plate, Pressure              | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 7K     |    |
| 228    | DZKK000023 | Latch, Stopper               | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 8J     |    |
| 229    | DZJN000016 | Rubber, Separation           | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 6K     |    |
| 230    | DZKP000063 | Earth Plate, B               | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 5G     |    |
| 231    | DZGT000007 | Brush, Antistatic            | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1      | 8H |
| 232    | DZJQ000003 | Seal, White                  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1      | 8F |
| 233    | DZHA000071 | Film, Antistatic             | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1      | 2A |
| 7B     | XTB26-6J   | Screw                        | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1  | 1      | 7D |

### 7.3 Transmitter Assembly (1/2)

[illegible]

## Transmitter Assembly (2/2)

| Ref No | Part No.   | Part Name | 880 |    |    |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    |    |    | Location |    |    |    |    |    |    |    |    |    |                                |
|--------|------------|-----------|-----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|--------------------------------|
|        |            |           | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD | AE | AF  | AG | AH | EE | AJ | AK | AL | AM | AN | AP | AQ | AR |          | AS | AT | AV | AW | YC | YG | YW | YX | YJ | YM                             |
| 345    | DZLL000001 | Flywheel  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1D                             |
| 19     | XTB3+8J    | Screw     | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1B, 2D, 2I, 2K, 6C, 6G, 7J, 8F |
| 4N     | XSN3+W8FC  | Screw     | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 8B                             |
| 9H     | XTN26+6J   | Screw     | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 5G                             |
| 36     | XYN3+F6    | Screw     | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1B, 1C                         |
| D6     | XXE3A6FY   | Screw     | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1E                             |

## 7.4 Fuser Unit

[illegible]

**NOTE:** When Thermostat (Ref. No. 432) and/or Thermal Fuse (Ref. No. 433) was defective by Fuser over heat condition. \* mark part also may deformed.  
Please replace \* mark part (Refer to page 7-8, 7-14) when you replace these part at the same time or replace entire Fuser Unit (Ref. No. 431)

## 7.5 Electrical Parts (1/3)

[illegible]

## Electrical Parts (2/3)

### ***Exploded View & Parts List***

[illegible]

## Electrical Parts (3/3)

| Ref No | Part No.   | Part Name     | 880 |    |    |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    |    |    | Location |   |    |    |    |    |    |    |    |  |    |    |
|--------|------------|---------------|-----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----------|---|----|----|----|----|----|----|----|--|----|----|
|        |            |               | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD | AE | AF  | AG | AH | EE | AJ | AK | AL | AM | AN | AP | AQ | AR |          |   | AS | AT | AV | AW | YC | YG | YW | YX   | YJ | YM |
| 547    | DZEC100699 | PC Board, MDM |     |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |          |   |    |    |    |    |    |    |    |  |    | 1D |
| 547    | DZEC100417 | PC Board, MDM | 1   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |          |   |    |    |    |    |    |    |    |  | 1D |    |
| 547    | DZEC100750 | PC Board, MDM | 1   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |          |   |    |    |    |    |    |    |    |  | 1D |    |
| 548    | DZEP000342 | Harness, SSN  | 1   |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |          |   |    |    |    |    |    |    |    |  | 3H |    |
| 549    | DZA1000279 | Bracket       | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7E   |    |    |
| 19     | XTB3+8J    | Screw         | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1B, 1C, 1F, 2A, 3B, 3G, 4C, 5A, 6K, 7A, 8K |    |    |
| 35     | XYN4+F6    | Screw         | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4B   |    |    |
| C8     | XTW3+8SFC  | Screw         | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1A, 1C                                     |    |    |

## 7.6 Paper Transportation (1/2)

[illegible]



## 7.- 24

7.- 24

7.- 24

### 7.7 250-Sheet Feeder Unit (1/2)

### Exploded View & Parts List

[illegible]

## 250-Sheet Feeder Unit (2/2)

| Ref No | Part No.   | Part Name                  | 880 |    |    |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    |    |    | Location |    |    |    |    |    |    |    |    |   |    |
|--------|------------|----------------------------|-----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----------|----|----|----|----|----|----|----|----|---|----|
|        |            |                            | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD | AE | AF  | AG | AH | EE | AJ | AK | AL | AM | AN | AP | AQ | AR | AS       | AT | AV | AW | YC | YG | YW | YX | YJ | YM  | YT |
| 746    | DZLA000081 | Roller, Paper Feed         | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 3F |
| 747    | DZKP000091 | Spring, Size               | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 7A |
| 748    | DZEC100410 | PC Board, SSN (Paper Size) | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 7A |
| 750    | DZFP000344 | Harness, SSN, 3            | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7B  |    |
| 751    | DZJN000034 | Rubber, Leg                | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 8G  |    |
| 19     | XTB3+8J    | Screw                      |     |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |    |    |    |    |    |    |          |    |    |    |    |    |    |    |    | 1A, 1C, 1D, 1E,<br>1G, 2D, 2E, 2F,<br>2G, 2H, 3G, 3I,<br>3J, 4C, 5F, 5G,<br>5J, 6A, 6F, 6G,<br>7D, 8A, 8B |    |
|        |            |                            | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  |   |    |
| 23     | XYN3+F8    | Screw                      | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2F  |    |
| 5Y     | XUC4       | Ring, E-type               | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1K, 2B, 2D, 3A,<br>2C   |    |
| 5Z     | XUC6       | Ring, E-type               | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2E, 4G  |    |
| B1     | DZPB000007 | Screw                      | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4A, 8E  |    |
| 6L     | DZPB000014 | Screw                      | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 5B  |    |
| C8     | XTW3+8SFC  | Screw                      | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2I, 4J  |    |

| Ref No | Part No.   | Part Name   | 880 |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    | Location |   |   |   |    |    |    |    |    |    |    |    |    |    |        |
|--------|------------|---|-----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----------|---|---|---|----|----|----|----|----|----|----|----|----|----|--------|
|        |            |   | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD  | AE | AF | AG | AH | EE | AJ | AK | AL | AM |          |   |   |   | AN | AP | AQ | AR | AS | AT | AV | AW | YC | YG | YW     |
| 801    | DZJF000194 | Base Frame, Cassette                                | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7F     |
| 802    | DZJF000159 | Guide, Paper Width                                  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 5I     |
| 803    | DZJF000160 | Guide, Paper Length                                 | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4B     |
| 804    | DZJM000091 | Lock, Pressure Plate                                | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3F     |
| 805    | DZJC000079 | Clip, Paper, Right                                  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3D     |
| 806    | DZJC000080 | Clip, Paper, Left                                   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4H     |
| 807    | DZJD000003 | Plate, Lock   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4D     |
| 808    | DZKM000008 | Plate, Pressure                                     | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2G     |
| 809    | DZKN000071 | Spring  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3E, 4G |
| 810    | DZJP000005 | Pad, Pressure Plate                                 | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1G     |
| 811    | DZNK000298 | Label, Size   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 8G     |
| 812    | DZKN000084 | Spring, lock  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3F     |
| 813    | DZNK000483 | Instruction Label 3                                 | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7B     |
| 814    | DZNK000300 | Instruction Label 2                                 | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3I     |
| 815    | DZHP000358 | Cassette, Paper, 250 (Ref. No. 811 is not included) | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | -      |
| 816    | DZJF000225 | Paper Size Selector                                 | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  |    |    |     |    |    |    |    |    |    |    |    |    |          |   |   |   |    |    |    |    |    |    |    |    |    | 4C |        |

## 7.9 500-Sheet Feeder Unit (1/2)

[illegible]

## 500-Sheet Feeder Unit (2/2)

| Ref No | Part No.   | Part Name    | 880 |    |    |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    |    |    | Location |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
|--------|------------|--------------|-----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----------|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|
|        |            |              | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD | AE | AF  | AG | AH | EE | AJ | AK | AL | AM | AN | AP | AQ | AR |          |   |   |   | AS | AT | AV | AW | YC | YD | YE | YF | YJ | YK | YL | YM | YN | YO | YP | YQ | YR | YS | YT |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |     |
| 947    | DZLF000171 | Gear, C21E28 | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1</ |

## 7.10 500-Sheet Paper Cassette

| Ref No | Part No.   | Part Name  | 880 |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    | Location |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|------------|--|-----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----------|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
|        |            |  | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD  | AE | AF | AG | AH | EE | AJ | AK | AL | AM |          |   |   |   | AN | AP | AQ | AR | AS | AT | AV | AW | YC | YG | YW | YX |
| 1001   | DZJF000232 | Base Frame, Cassette                                 | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7C |
| 1002   | DZJF000228 | Guide, Paper Width                                   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 7J |
| 1004   | DZJM000091 | Lock, Pressure Plate                                 | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3G |
| 1005   | DZJC000079 | Clip, Paper, Right                                   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4E |
| 1006   | DZJC000080 | Clip, Paper, Left                                    | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4I |
| 1007   | DZJD000003 | Plate, Lock  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4D |
| 1008   | DZJF000231 | Plate, Pressure                                      | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3F |
| 1009   | DZKN000093 | Spring   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3G |
| 1010   | DZJP000005 | Pad, Pressure Plate                                  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1G |
| 1011   | DZKN000298 | Label, Size  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 8H |
| 1012   | DZKN000084 | Spring, lock   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 3G |
| 1013   | DZKN000483 | Instruction Label3                                   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2I |
| 1014   | DZKN000300 | Instruction Label2                                   | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 5J |
| 1015   | DZJF000225 | Paper Size Selector                                  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4D |
| 1016   | DZJF000229 | Guide, End, A  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 4B |
| 1017   | DZJF000230 | Guide, End, B  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 2B |
| 1018   | DZHP000359 | Cassette, Paper, 500 (Ref. No. 1011 is not included) | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1   | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1        | 1 | 1 | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | -  |

### Exploded View & Parts List

### 7.11 Packing and Accessories (1/2)

[illegible]



## Packing and Accessories (2/2)

| Ref No | Part No.   | Part Name | 880 |    |    |    |    |    |    |    |    |    |    |    | 770 |    |    |    |    |    |    |    |    |    |    |    | Location |  |  |  |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
|--------|------------|-----------|-----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|----|----|----|----|----|----|----|----|----|----------|--|--|--|----|----|----|----|----|----|----|----|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----|
|        |            |           | AB  | AG | AK | AL | AW | YX | YM | AU | AA | AB | AD | AE | AF  | AG | AH | EE | AJ | AK | AL | AM | AN | AP | AQ | AR |          |  |  |  | AS | AT | AV | AW | YC | YG | YV | YX | YJ | YM | YT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |    |
| 1107   | DZFN000003 | Line Cord |     |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    | 1  |    |    |    |    |    |    |    |          |  |  |  |    |    |    |    |    |    |    |    |    |    |    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | </ |

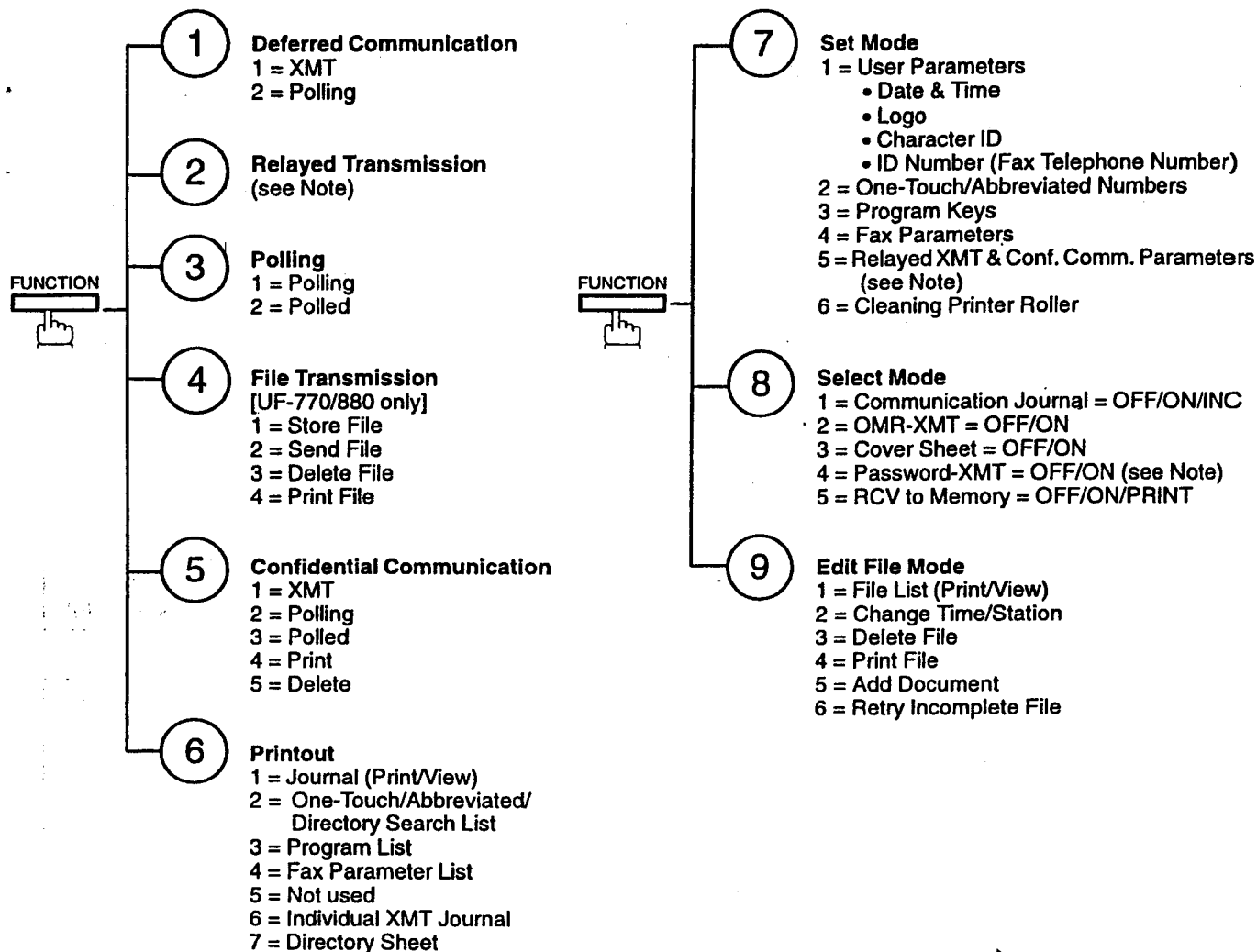
## **Chapter 8**

### **Installation**

**Notes**

## 8.1 Function Key

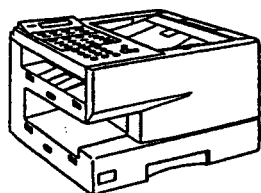
Any function can be started by first pressing **FUNCTION** and then enter the function number, or by pressing **▽** or **△** scroll key repeatedly until the desired function appears on the display.



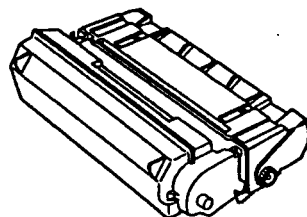
**Note:** If Fax Parameter is not preset to Valid position, which enables you to use the function, the display will not show the function.

## 8.2 Main Unit and Accessories

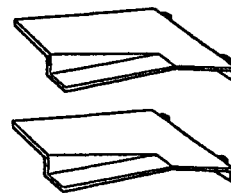
Unpack the carton and check that you have all the accessories illustrated.



Machine



Toner Cartridge



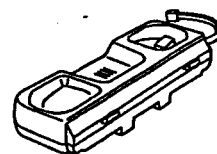
Document Trays



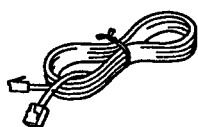
Handset (see Note)



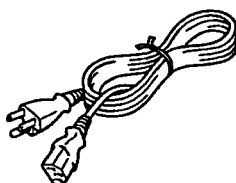
Handset Cable (see Note)



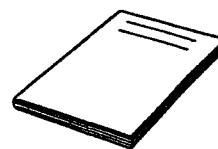
Handset Cradle (see Note)



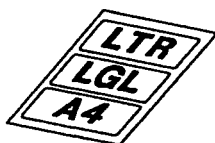
Telephone Line Cord



Power Cord



User's Guide

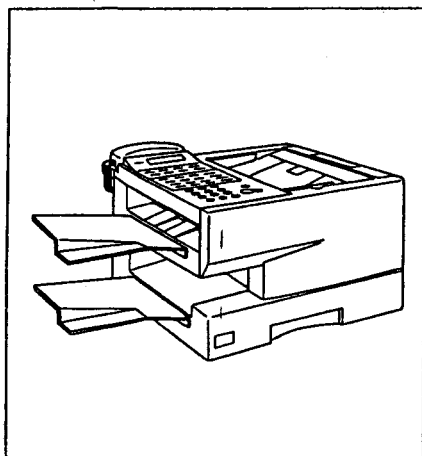


Paper Size Label



**Note:** Available as an option for the UF-550.

### 8.3 Installing the Accessories



Final Installed View

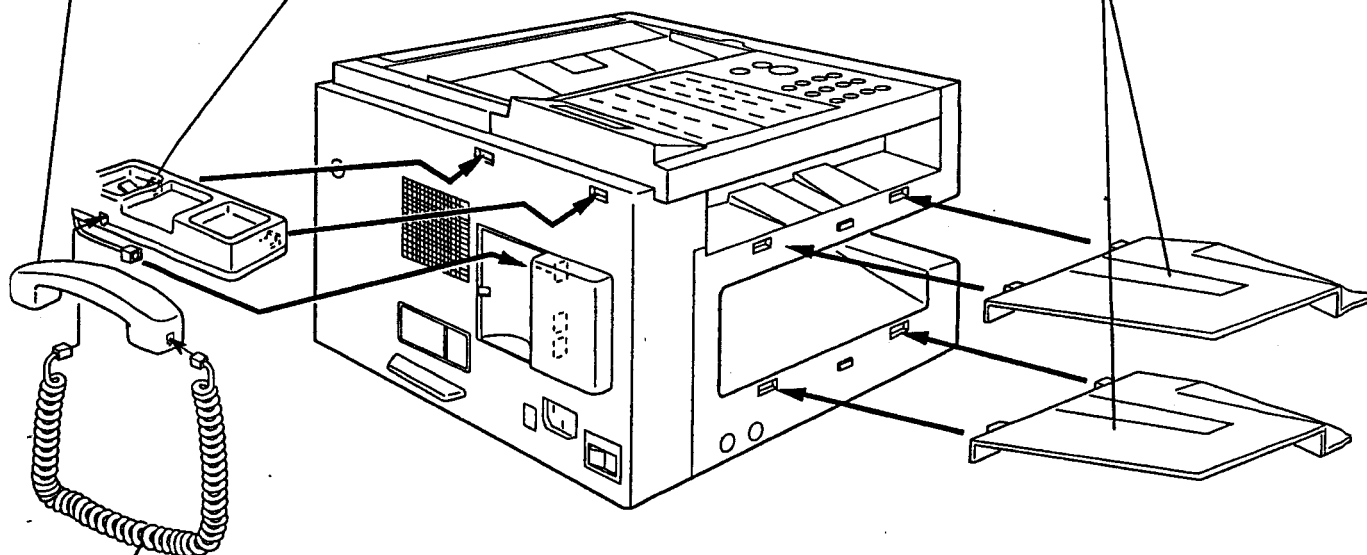
**Handset Cradle** [Available as an Option (UF-550)]  
Hook the projections into the square holes on the machine.  
Connect the cable into the HANDSET jack on the machine.

#### Handset

[Available as an Option (UF-550)]

#### Document Trays

Hook the projections into the square holes on the machine.



#### Handset Cable

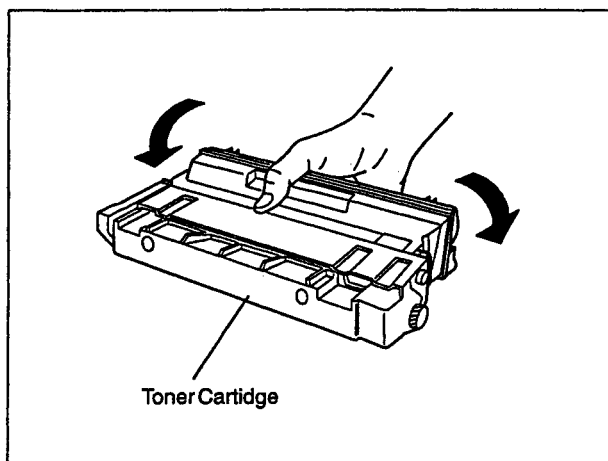
[Available as an Option (UF-550)]



**Note:** For some countries, the handset may not be available because of the country's regulation or specification.

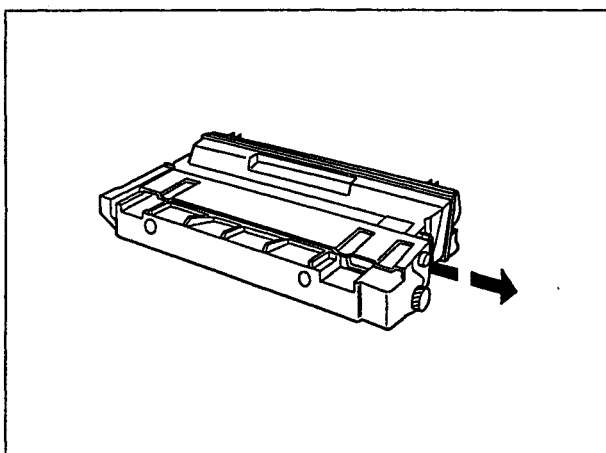
## 8.4 Installing the Toner Cartridge

1



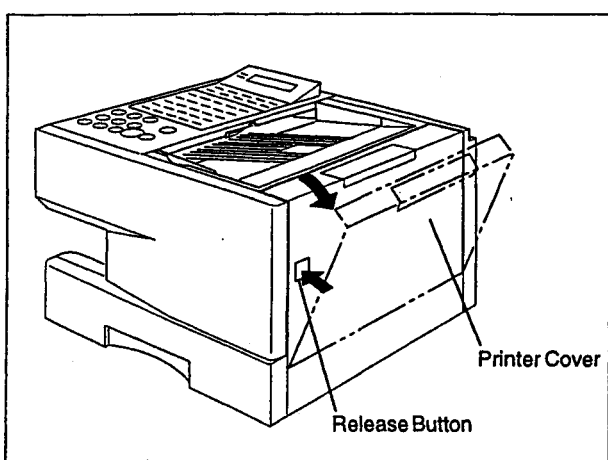
Unpack the Toner Cartridge and rock it back and forth as shown for 5 or 6 times to even the toner inside.

2



Remove the protective seal.

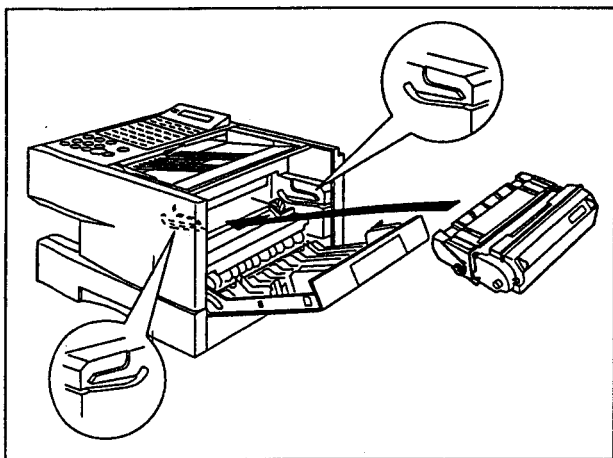
3



Push the release button to open the Printer Cover.

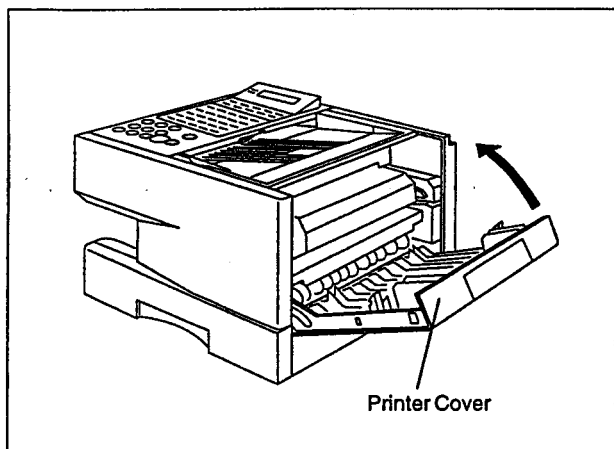
*Continued on the next page.*

**4**



Align the arrow and the projection on both sides as shown and insert the Toner Cartridge into the machine.

**5**



Close the Printer Cover firmly.



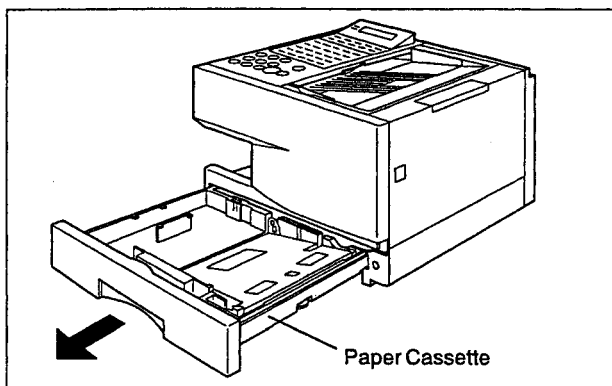
## 8.5 Loading the Recording Paper

### Paper Specifications

In general, most bond papers will produce excellent results. Most photocopy papers will also work very well. There are many "name" and "generic" brands of paper available. We recommend that you test various papers until you obtain the results you are looking for. For detailed recommended paper specifications, see page 170 of the User's Guide.

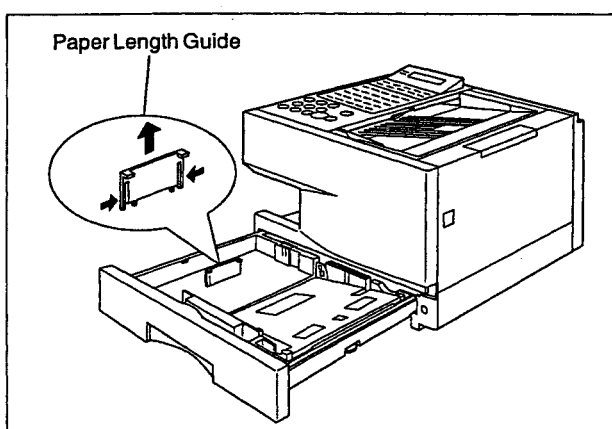
### How to Load the Recording Paper

1



Slide out the Paper Cassette from the machine.

2

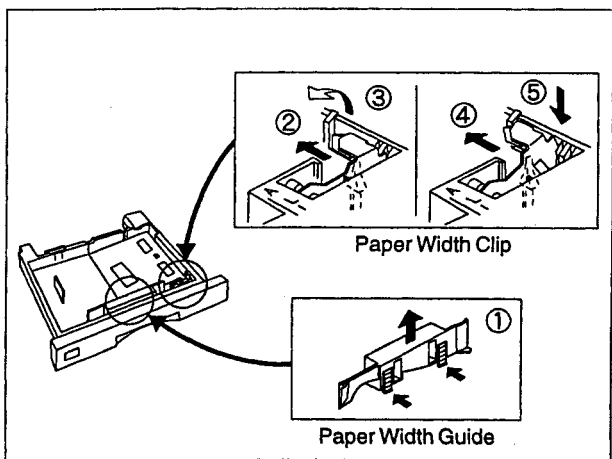


Adjust the Paper Length Guide to the proper paper size (A4, LTR, or LGL).

For LGL size paper, remove the Paper Length Guide and store it in the provided slot in the front left side of the Paper Cassette.

If reloading the same size of paper, skip the step 2 and 3.

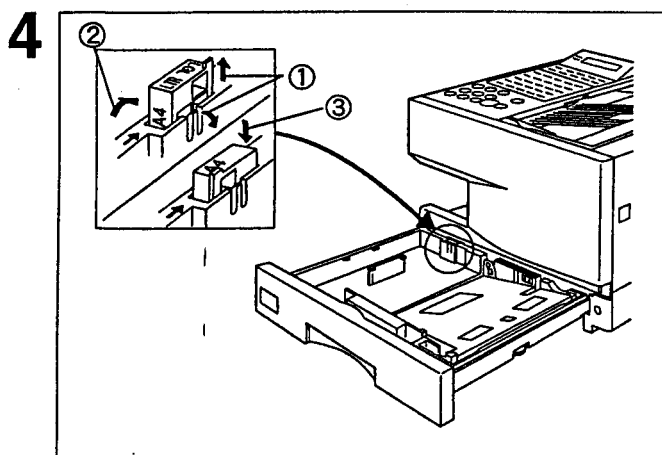
3



Adjust the Paper Width Guide and Clip to the proper paper (A4, or LTR/LGL).

The factory default for the Paper Width Guide and Clip are on A4 position. For LTR/LGL paper size, adjust by following the steps below.

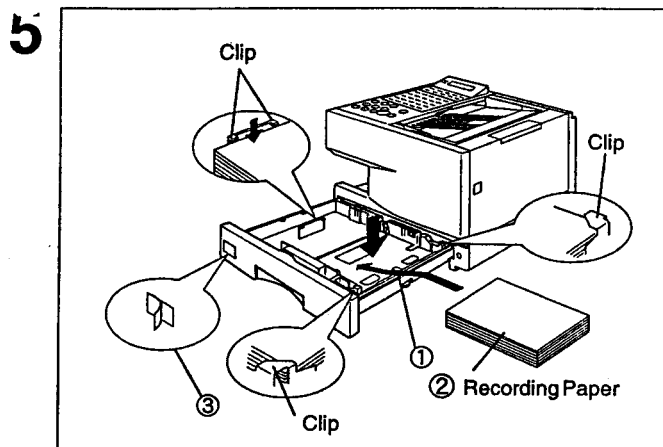
- ① Replace the Paper Width Guide into the proper slot (A4 or LTR/LGL).
- ② Release the Paper Width Clip latch.
- ③ Pull upwards to remove the Paper Width Clip.
- ④ Replace the Paper Width Clip into the A(A4) or L(LTR/LGL) slot.
- ⑤ Push down on the Paper Width Clip to latch it in place.



- ① Release the hook and remove the Paper Size Selector.
- ② Rotate the Paper Size Selector until the appropriate setting marked on the Selector is facing upward and the wording is upright.
- ③ Reinstall the Paper Size Selector.

[For UF-550]

There is no paper size selector on the paper cassette. Refer to page 22 of the User's Guide.

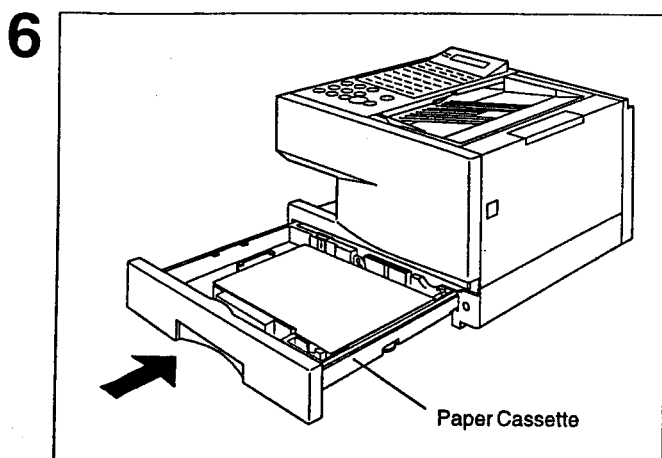


- ① Push the Pressure Plate until it is locked down.
- ② Load the paper into the Paper Cassette.

**Caution:** Make sure that the paper is set under the clips of the Paper Cassette. You can load about 250 sheets with standard weight paper (20 lb. or 75 g/m<sup>2</sup>). For paper specification see page 170 of the User's Guide.

- ③ Set the proper paper size label.

Slide the Paper Cassette into the machine.



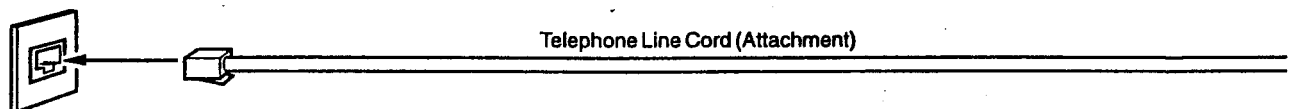
**Note:** 1. The Recording Paper Size setting must match the paper loaded in the cassette. See page 22 of the User's Guide.

2. Your machine will properly print on A4, Letter and Legal size paper only. If other size of paper (B4, B5, A5) is used, your machine may not print properly.

## 8.6 Connecting the Telephone Line Cord and Power Cord

### ■ Telephone Line Cord

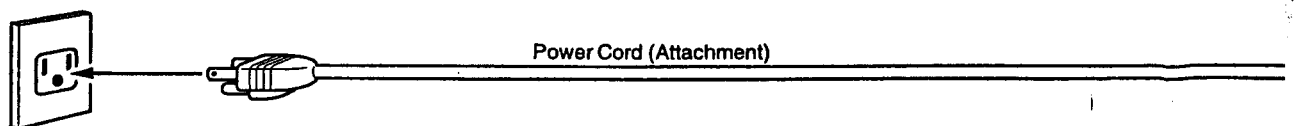
Plug one end of the telephone line cord into the telephone jack supplied by the telephone company and the other end into the LINE jack on the rear of the machine.



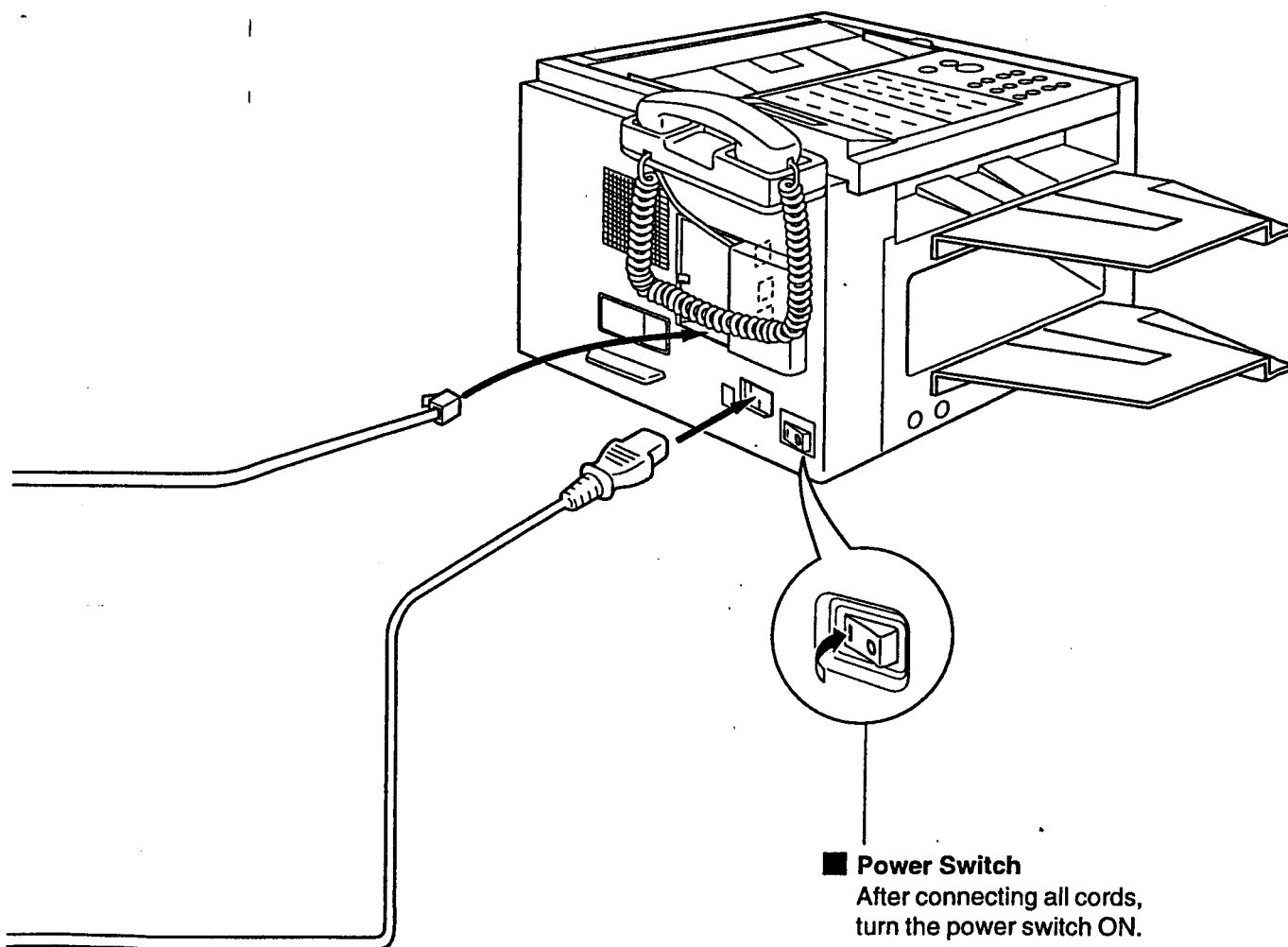
### ■ Power Cord

Plug one end of the power cord into an ordinary AC outlet and the other end into the receptacle on the rear of the machine.

**Warning :** This apparatus must be properly grounded through an ordinary AC outlet.



- Note:** 1. Your machine uses little power and you should keep it ON at all times. If the power is turned OFF for too long, the contents of the memory may be lost.
2. UF-770/880 has 2 separate rechargeable batteries to preserve the memory contents in case of a short time power failure. One for the machine parameters (such as LOGO, ID Number, Auto-dialer Telephone Number, etc.) which can back up for 10 days and the other one for the document memory, which can back up for 1 hour when fully charged.
- UF-550 has a rechargeable battery to preserve the machine parameters only for up to 10 days when fully charged.
3. The built-in rechargeable batteries require 48 hours to be fully charged in the machine.

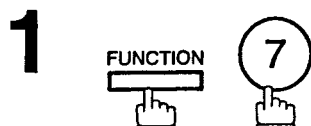


■ **Power Switch**  
After connecting all cords,  
turn the power switch ON.

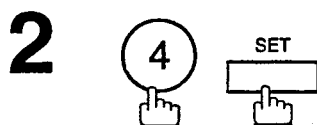
## 8.7 Customizing Your Machine

Your facsimile machine has a variety of adjustable Fax Parameters. These parameters, listed in the Parameter Table, are preset for you and do not need to be changed. If you do want to make a change, read the table carefully. Some parameters, such as the Resolution, Contrast, and Verification Stamp parameters, can be temporarily changed by simple key operation just before a transmission is made. When the transmission ends, however, these parameters return to their preset values (Home position). Other parameters can only be changed by the procedure described below.

### Setting the Fax Parameters



SET MODE (1-6)  
ENTER NO. OR V ^

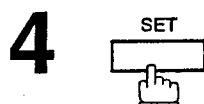


FAX PARAMETER (01-99)  
NO. =

**3** Enter Fax Parameter number from the Parameter Table (see following pages).

Ex: ①① for CONTRAST

FAX PARAMETER (01-99)  
NO. = 01

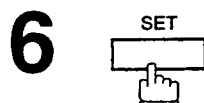


01 CONTRAST  
1: NORMAL

**5** Enter the new setting value.

Ex: ② for LIGHTER

01 CONTRAST  
2: LIGHTER



02 RESOLUTION  
1: STANDARD

To set another parameter, press **CLEAR** to return to step 3, or, to return to standby, press **STOP**.

**Note:** 1. To scroll the Fax Parameters in Step 2 or 4, press **V** or **^**.

2. To print out a Fax Parameter List, see page 153 of the User's Guide.

3. The built-in battery when fully charged can back up the Fax Parameter settings for up to 10 days when a power failure occurs.

Fax Parameter Table

| No. | Parameter              | Setting Number | Setting      | Comments   |
|-----|------------------------|----------------|--------------|--|
| 01  | CONTRAST               | 1              | Normal       | Setting the home position of the CONTRAST key.   |
|     |                        | 2              | Lighter      |  |
|     |                        | 3              | Darker       |  |
| 02  | RESOLUTION             | 1              | Standard     | Setting the home position of the RESOLUTION key.   |
|     |                        | 2              | Fine         |  |
|     |                        | 3              | S-Fine       |  |
| 04  | STAMP                  | 1              | Off          | Setting the home position of the STAMP key. To select the stamp function when document is stored in memory (see Fax Parameter No. 28).   |
|     |                        | 2              | On           |  |
| 05  | MEMORY                 | 1              | Off          | Setting the home position of the MEMORY key:   |
|     |                        | 2              | On           |  |
| 06  | DIALLING METHOD        | 1              | Pulse        | Selecting the dialling method.   |
|     |                        | 2              | Tone         |  |
| 07  | HEADER PRINT           | 1              | Inside       | Selecting the printing position of the header.<br>Inside : Inside TX copy area.<br>Outside : Outside TX copy area.<br>No print : Header is not printed.  |
|     |                        | 2              | Outside      |  |
|     |                        | 3              | No print     |  |
| 08  | HEADER FORMAT          | 1              | Logo, ID No. | Selecting the header format.   |
|     |                        | 2              | From To      |  |
| 09  | RCV'D TIME PRINT       | 1              | Invalid      | Selecting whether or not the machine prints the received date & time, remote ID, percentage of reduction and page number on the bottom of each received page.                                    |
|     |                        | 2              | Valid        |  |
| 10  | KEY/BUZZER VOLUME      | 1              | Off          | Selecting the volume of the Key/Buzzer tone.   |
|     |                        | 2              | Soft         |  |
|     |                        | 3              | Loud         |  |
| 12  | COMM. JOURNAL          | 1              | Off          | Selecting the home position of printout mode for COMM. Journal<br>Off/Always/Inc. only<br>Off : No printout<br>Always : Always prints out<br>Inc. only : Printout when communication has failed. |
|     |                        | 2              | Always       |  |
|     |                        | 3              | Inc. only    |  |
| 13  | AUTO JOURNAL PRINT     | 1              | Invalid      | Selecting whether or not the machine prints the journal automatically after every 100* transactions.<br>(*UF-550 : 32 transactions)  |
|     |                        | 2              | Valid        |  |
| 14  | FILE ACCEPTANCE REPORT | 1              | Invalid      | Selecting whether or not the machine prints the file acceptance journal. If you set this parameter to valid, the journal will be printed out after entering any communications using memory.     |
|     |                        | 2              | Valid        |  |

Continued on the next page.

| No. | Parameter            | Setting Number | Setting    | Comments   |
|-----|----------------------|----------------|------------|--|
| 17  | RECEIVE MODE         | 1              | Manual     | Setting the reception mode either automatic or manual.   |
|     |                      | 2              | Auto       |  |
| 22  | SUBSTITUTE RCV       | 1              | Invalid    | Selecting whether or not the machine receives to memory when recording paper runs out, toner runs out or recording paper jammed.   |
|     |                      | 2              | Valid      |  |
| 23  | RECORDING PAPER SIZE | 1              | A4         | Setting the recording paper size installed in your machine. (UF-550 only)  |
|     |                      | 2              | Letter     |  |
|     |                      | 3              | Legal      |  |
| 24  | PRINT REDUCTION      | 1              | Fixed      | <p>Selecting print reduction mode.</p> <p>Fixed: Reduce received document according to setting of Parameter No. 25.</p>  |
|     |                      | 2              | Auto       | Auto: Reduce received document according to the length of received documents.  |
| 25  | REDUCTION RATIO      | 70             | 70%        | Selecting fixed print reduction ratio from 70% to 100%. This parameter functions only when fixed print reduction is selected on fax parameter no. 24.  |
|     |                      | ---            | ---        |  |
|     |                      | 100            | 100%       |  |
| 26  | POLLING PASSWORD     |                | (---)      | Setting a 4-digit password for secured polling.  |
| 27  | POLLED FILE SAVE     | 1              | Invalid    | Selecting whether or not the machine retains the polled document in memory even after the document is polled once.   |
|     |                      | 2              | Valid      |  |
| 28  | STAMP AT MEM. XMT    | 1              | Invalid    | Selecting whether or not the machine stamps the original documents when storing the documents into memory. (depending on the Stamp setting on the Control Panel.)  |
|     |                      | 2              | Valid      |  |
| 30  | DRD SERVICE          | 1              | Invalid    | Selecting whether or not the machine is available "DRD Service". If this parameter is set to "Valid", your machine detects the specified ring pattern only to receive a document automatically.                              |
|     |                      | 2              | Valid      |  |
| 31  | INCOMPLETE FILE SAVE | 1              | Invalid    | Selecting whether or not the machine retains the document in memory if the document is not successfully transmitted.   |
|     |                      | 2              | Valid      |  |
| 32  | COPY REDUCTION       | 1              | Invalid    | Selecting whether or not the machine performs copy reduction in accordance with the setting of Parameter No. 24 and 25.  |
|     |                      | 2              | Valid      |  |
| 33  | XMT REDUCTION        | 1              | Invalid    | Selecting whether or not the machine performs reduction when the transmitting document is wider than the recording paper used at the receiving machine. (UF-770/880 only)  |
|     |                      | 2              | Valid      |  |
| 34  | POWER SAVE TIMER     | --             | Start-Time | To reduce the power consumption of the machine in standby, select the time period to turn off the high temperature fuser unit when the printer is idle. Factory default is always "ON" (When Start = 00:00 and End = 00:00). |
|     |                      | --             | End-Time   |  |

Continued on the next page.

| No. | Parameter              | Setting Number | Setting | Comments   |
|-----|------------------------|----------------|---------|--|
| 37  | RCV TO MEMORY          |                | (----   | Enter a 4-digit password used to print out the received document in memory by F8-5 (RCV TO MEMORY). When F8-5 is set to On, this parameter will not be shown on the LCD display. |
| 38  | FAX ACCESS CODE        |                | (----   | Enter a 4-digit Fax Access Code to secure the machine from unauthorized use.   |
| 40  | RELAY XMT REQUEST      | 1              | Invalid | Selecting whether or not the machine performs Relay XMT Request.   |
|     |                        | 2              | Valid   |  |
| 41  | CONF. FAX PARAMETER    | 1              | Invalid | Selecting whether or not the machine performs Confidential Network Communication.  |
|     |                        | 2              | Valid   |  |
| 42  | CONF. POLLED FILE SAVE | 1              | Invalid | Selecting whether or not the machine saves the confidential polled file even after the file is polled once.  |
|     |                        | 2              | Valid   |  |
| 43  | PASSWORD-XMT           | 1              | Off     | Setting a 4-digit XMT-Password and selecting whether or not the machine performs and checks the XMT-Password of the receiving station when transmitting.                         |
|     |                        | 2              | On      |  |
| 44  | PASSWORD-RCV           | 1              | Off     | Setting a 4-digit RCV-Password and selecting whether or not the machine performs and checks the RCV-Password of the transmitting station when receiving.                         |
|     |                        | 2              | On      |  |
| 46  | SELECT RCV             | 1              | Invalid | Selecting whether or not the machine performs selective reception.   |
|     |                        | 2              | Valid   |  |
| 48  | TELEPHONE LINE         | 1              | PSTN    | Selecting the type of line connected.  |
|     |                        | 2              | PBX     |  |
| 49  | PSTN ACCESS CODE       |                | 0---    | Setting PSTN Access Code. (max. 4 digits)  |
| 50  | FLASH KEY              | 1              | Earth   | Selecting to use FLASH on control panel either as Earth key or Flash key.  |
|     |                        | 2              | Flash   |  |
| 52  | DIAGNOSTIC PASSWORD    |                | (----   | Setting the password for Remote Diagnostic Mode. Please ask your Panasonic Authorized Dealer for details.  |
| 53  | SUB-ADDRESS PASSWORD   |                | (----   | Setting a 20-digit password for secured sub-address communication.   |
| 54  | FAX FORWARD            | 1              | Invalid | Selecting whether or not the machine performs the Fax Forward. (UF-770/880 only)   |
|     |                        | 2              | Valid   |  |
| 55  | OMR-XMT                | 1              | Off     | Setting the home position of the OMR-Transmission parameter in the Select Mode.  |
|     |                        | 2              | On      |  |
| 56  | COVER SHEET            | 1              | Off     | Setting the home position of the Cover Sheet parameter in the Select Mode.   |
|     |                        | 2              | On      |  |

Continued on the next page.



| No. | Parameter                          | Setting Number | Setting           | Comments  |
|-----|------------------------------------|----------------|-------------------|---|
| 58  | LANGUAGE                           | 1              | English           | Selecting the language to be shown on the display and reports.  |
|     |                                    | 2              | French            |   |
|     |                                    | 3              | German            |   |
| 59  | PARALLEL PORT I/F<br>[See note 3]  | 1              | Invalid           | Selecting whether the machine enables the Printer Interface or PC Interface.  |
|     |                                    | 2              | Printer Interface |   |
|     |                                    | 3              | PC Interface      |   |
| 60  | OPTION PAGE MEMORY<br>[See note 4] | 0              | 0 MB              | Selecting the additional memory size to be allocated as the Page Memory used for the Printer/PC Interface. The amount of additional memory allocated will reduce the size of available Document Memory. |
|     |                                    | 1              | 1.5 MB            |   |
| 65  | PRINT COLLATION                    | 1              | Invalid           | Selecting whether or not the machine prints out documents in sequence.  |
|     |                                    | 2              | Valid             |   |
| 77  | LOGO/DEPT. CODE                    | 1              | Invalid           | Selecting whether or not the machine performs the Multiple Logo or Department Code operation.<br>(UF-770/880 only)  |
|     |                                    | 2              | Multi-LOGO        |   |
|     |                                    | 3              | Dept. Code        |   |
| 99  | MEMORY SIZE                        | -              | -                 | Display the amount of base and optional memory installed.<br>(Base Memory + Optional Memory)  |



- Note:**
1. The contents of Fax Parameter may differ depending on the each country's regulation or specification.
  2. The standard settings are printed on the Fax Parameter List. To print out Fax Parameter List.
  3. This parameter is available only when the Parallel Port Interface Option is installed.
  4. This parameter is available only when the Parallel Port Interface Option and Optional Memory Card (2 MB or more) are installed.


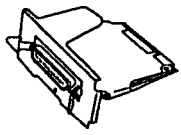
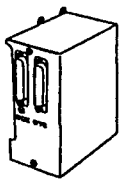
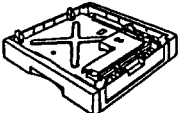
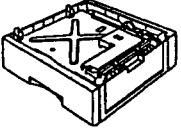

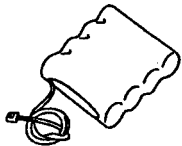
## **Chapter 9**

### **Options**

## 9.1 Options and Supplies

Please contact your local Panasonic dealer for availability.


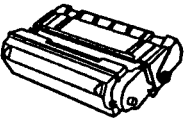
### A. Options:

| Order No.                    | Picture   | Description  | Available Models |
|------------------------------|---|--|------------------|
| UE-403117                    |    | Handset Kit  | UF-550           |
| UE-404053                    |    | Parallel Port Interface Kit<br>(Used for Printer or PC Interface)          | UF-550           |
| UE-404058                    |   |  | UF-770           |
| UE-404059                    |   |  | UF-880           |
| UE-404056                    |   | V.24/Encryption Interface Kit  | UF-770           |
| UE-409051<br>or<br>UE-409057 |  | 250 sheets Letter / Legal / A4 Size Paper<br>Cassette with the Feeder Unit | UF-550           |
| UE-409057                    |   |  | UF-770<br>UF-880 |
| UE-409056                    |  | 500 sheets Letter / Legal / A4 Size Paper<br>Cassette with the Feeder Unit | UF-770<br>UF-880 |
| UE-410006                    |  | Expansion IC Memory Card, 1 MB   | UF-550           |
| UE-410007                    |   | Expansion IC Memory Card, 2 MB   | UF-770           |
| UE-410008                    |   | Expansion IC Memory Card, 4 MB   | UF-880           |
| UE-410029                    |   | Expansion IC Memory Card, 8 MB   | UF-770<br>UF-880 |
| UE-403125                    |  | 72 hours battery back-up option kit  | UF-770<br>UF-880 |



**Note:** For some countries, the handset may not be available because of the country's regulation or specification.

**B. Supplies:**

| Order No. | Picture   | Description        | Available Models           |
|-----------|---|--------------------|----------------------------|
| FX-13-2P  |  | Verification Stamp | UF-550<br>UF-770<br>UF-880 |
| UG-3313   |  | Toner Cartridge    | UF-550<br>UF-770<br>UF-880 |

## 9.2 Installing Optional Feeder Unit (UE-409057)

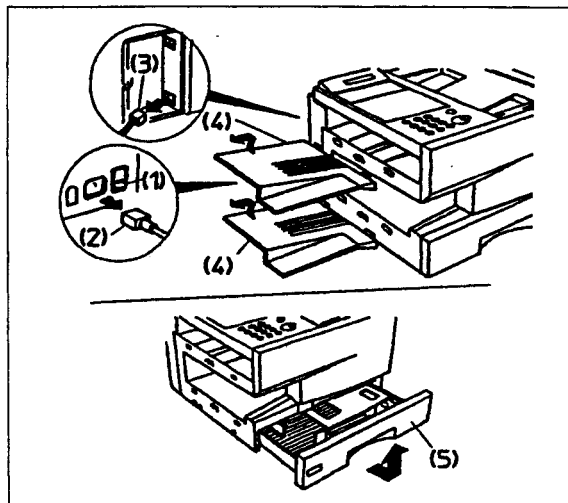
### A. Contents

| Qty. | Description                                | Part No.   | Remarks |
|------|--|------------|---------|
| 1    | 250 Sheets Paper Cassette with Feeder Unit | —          |         |
| 1    | Paper Size Label Set                       | DZNK000298 |         |

### B. Installation

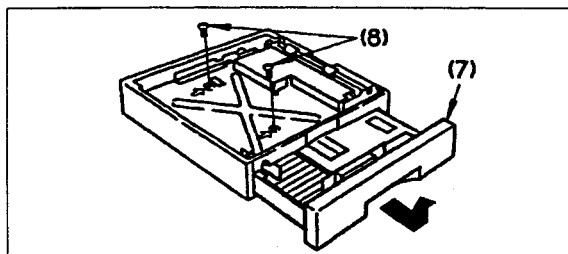
**NOTE:** Install this Feeder Unit as the 2nd Feeder Unit only.

1



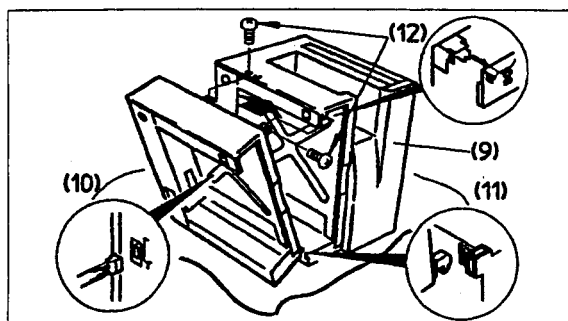
- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.
- (4) Remove the Document Trays.
- (5) Remove the Paper Cassette from the machine.
- (6) Remove the Toner Cartridge from the machine.

2



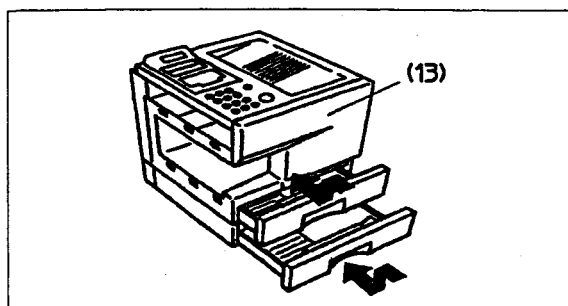
- (7) Remove the Paper Cassette from the Optional Feeder Unit.
- (8) Remove the two Screws on the new Feeder Unit marked by arrows.  
(These screws are used to attach the Feeder Unit to the machine in step 12.)

3



- (9) Place the machine on its right side over a clean cloth to prevent damaging the Printer Cover.
- (10) Plug-in the connector of the Feeder Unit.
- (11) Hook the latches of the Feeder Unit into the holes and set the Feeder Unit in the direction of the arrow.
- (12) Secure the Feeder Unit with the screws removed in step 8.

4



- (13) Place the machine upright.
- (14) Re-install the Document Trays, the Paper Cassettes and the Toner Cartridge.
- (15) Re-connect the Power Cord and the Telephone Line Cord.
- (16) Turn the Power Switch "ON".
- (17) Print some pages from the Optional Feeder Unit to confirm its operation.

**Note:** The paper size guides are factory set to the letter size. If you are using either A4 or legal size paper, please adjust the paper size guides accordingly.

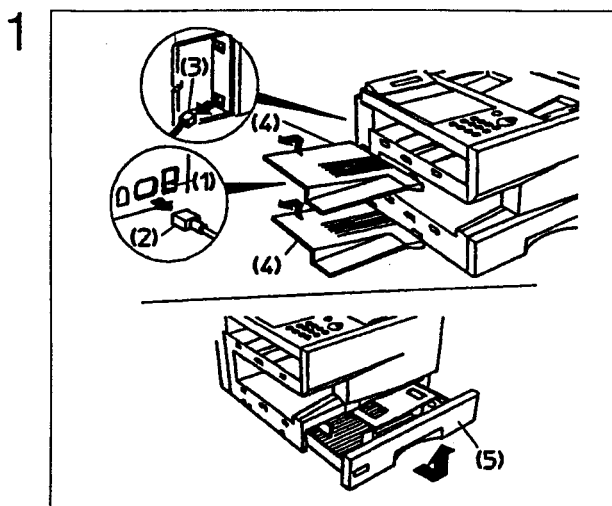
### 9.3 Installing Optional Feeder Unit (UE-409056)

#### A. Contents

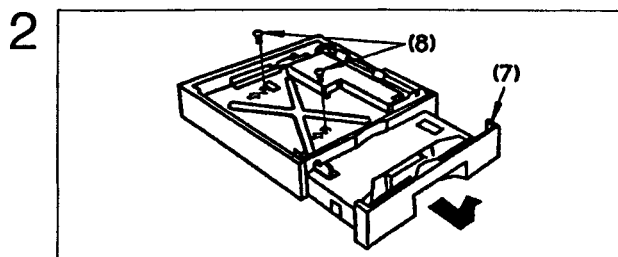
| Qty. | Description                                | Part No.    | Remarks |
|------|--|-------------|---------|
| 1    | 500 Sheets Paper Cassette with Feeder Unit | —           |         |
| 1    | Paper Size Label Set                       | DZLNK000298 |         |

#### B. Installation

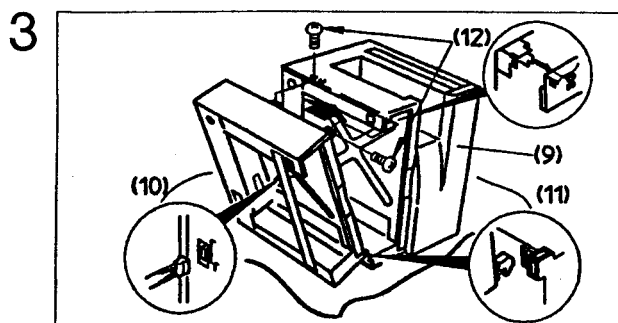
**NOTE:** Always install this Feeder Unit at the base of the unit. Install it as the 2nd Feeder Unit when configured for two cassettes or as the 3rd Feeder Unit when configured for three cassettes.



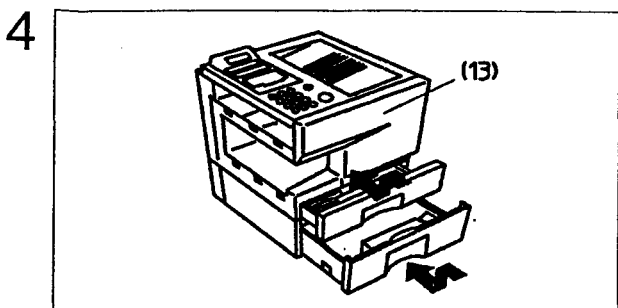
- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.
- (4) Remove the Document Trays.
- (5) Remove the Paper Cassette from the machine.
- (6) Remove the Toner Cartridge from the machine.



- (7) Remove the Paper Cassette from the Optional Feeder Unit.
- (8) Remove the two Screws on the new Feeder Unit marked by arrows.  
(These screws are used to attach the Feeder Unit to the machine in step 12.)



- (9) Place the machine on its right side over a clean cloth to prevent damaging the Printer Cover.
- (10) Plug-in the connector of the Feeder Unit.
- (11) Hook the latches of the Feeder Unit into the holes and set the Feeder Unit in the direction of the arrow.
- (12) Secure the Feeder Unit with the screws removed in step 8.



- (13) Place the machine upright.
- (14) Re-install the Document Trays, the Paper Cassette and the Toner Cartridge.
- (15) Re-connect the Power Cord and the Telephone Line Cord.
- (16) Turn the Power Switch "ON".
- (17) Print some pages from the Optional Feeder Unit to confirm its operation.

**Note:** The paper size guides are factory set to the letter size. If you are using either A4 or legal size paper, please adjust the paper size guides accordingly.

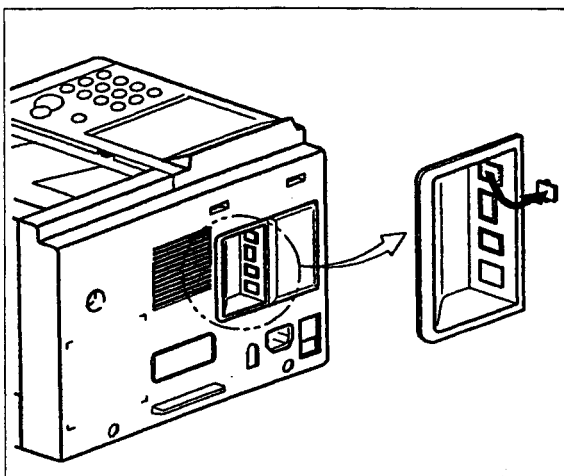
## 9.4 Installing Handset Kit (UE-403117)

### A. Contents

| Qty. | Description     | Part No.   | Remarks |
|------|-----------------|------------|---------|
| 1    | Handset         | DZDU000031 |         |
| 1    | Handset Cord    | DZFN000066 |         |
| 1    | Cradle Assembly | DZML000132 |         |

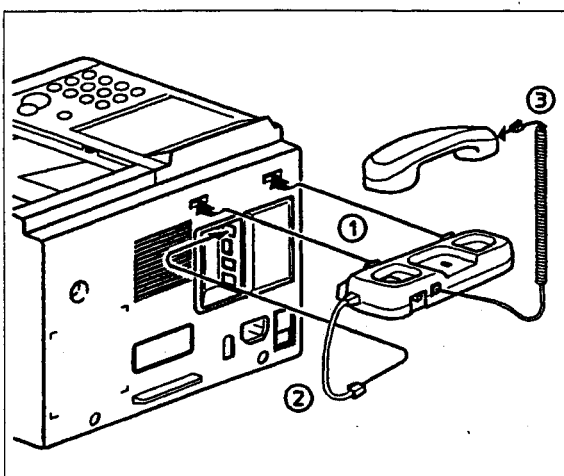
### B. Installation

1



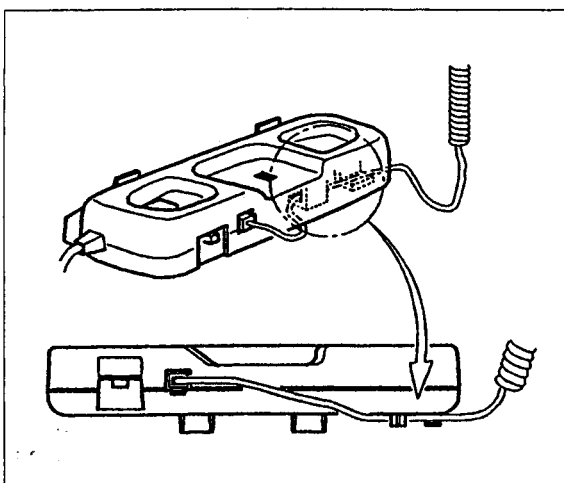
Break off the protective tab of the HANDSET Jack.

2



- (1) Hook the projections of the Cradle Assembly into the openings on the rear of the machine.
- (2) Connect the cable from the Cradle Assembly to the Handset Jack on the rear of the machine.
- (3) Connect the Handset Cord.

3



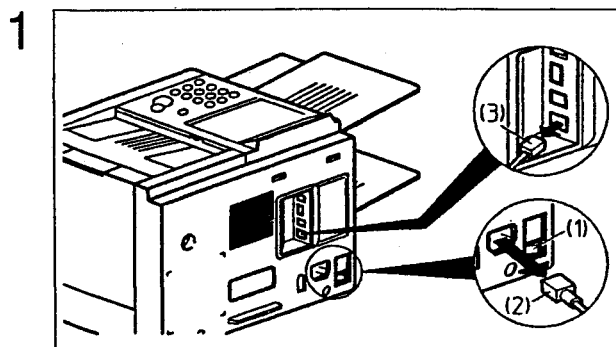
Route the Handset Cord along the hooks on the bottom of the Cradle Assembly.

## 9.5 Installing Parallel Port Interface Kit (UE-404053\*\*) (UE-404058\*\*) (UE-404059\*\*)

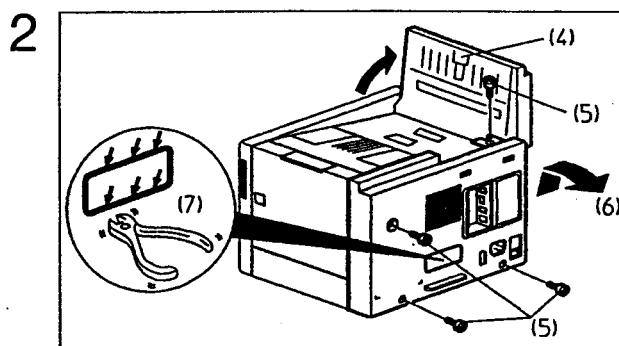
### A. Contents

| Qty. | Description                      | Part No.   | Remarks                   |
|------|----------------------------------|------------|---------------------------|
| 1    | Parallel Port Interface Assembly | DZHP000415 |                           |
| 1    | Programmed ROM                   | DZAD0000** |                           |
| 1    | Cable Harness                    | DZFP000206 | DZFP000204 (100V version) |
| 1    | Screw, 3 × 8                     | XTB3+8J    |                           |
| 1    | Printer Driver (Floppy Disk 2DD) | DZQW000013 |                           |

### B. Installation

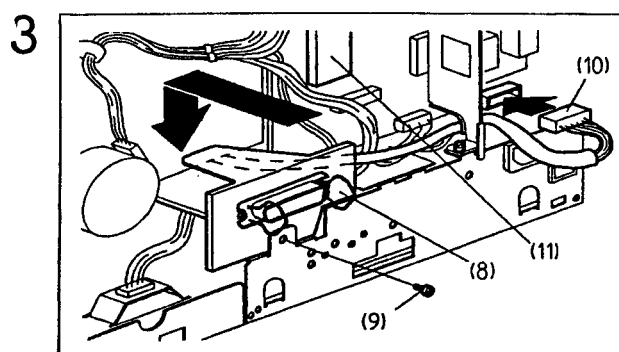


- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.

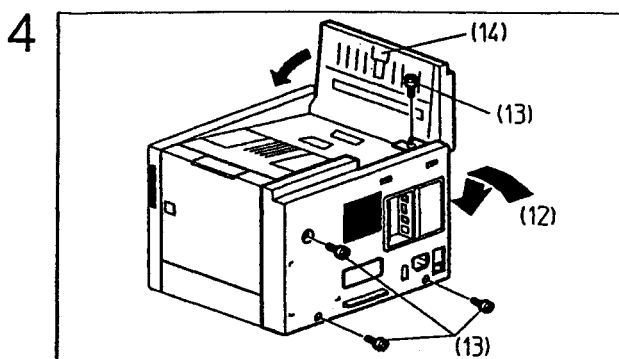


- (4) Open the Control Panel.
- (5) Remove four Screws.
- (6) Remove the Rear Cover.
- (7) Break off the protective tab.

**Note:** Order a protective film (P/N: DZHA000062) to cover up the opening if the interface is removed.



- (8) Install the Parallel Interface Assembly.
- (9) Install the Screw which come with the kit.
- (10) Connect the Option harness to the CN13 on the FCB PC Board.
- (11) Replace the new Option ROM (IC2) on the FCB PC Board.



- (12) Re-install the Rear Cover.
- (13) Re-install four Screws.
- (14) Close the Control Panel Unit.
- (15) Re-connect the Power Cord and the Telephone Line Cord.
- (16) Turn the Power Switch "ON".
- (17) Execute "PARAMETER INITIALIZE" in Test Mode No. 6.



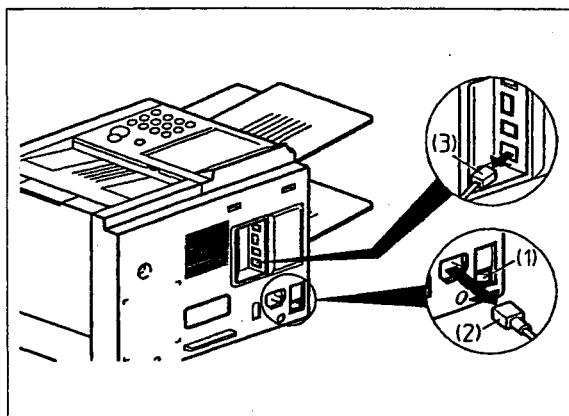
## 9.6 Installing V24/ENC Interface Kit (UE-404056\*\*)

### A. Contents

| Qty. | Description                | Part No.   | Remarks |
|------|----------------------------|------------|---------|
| 1    | V24/ENC Interface Assembly | DZMA000565 |         |
| 1    | Programmed ROM             | DZAD000*** |         |
| 1    | Harness, V24/ENC           | DZFP000205 |         |
| 1    | Screw, 3 × 8               | DZPB000007 |         |

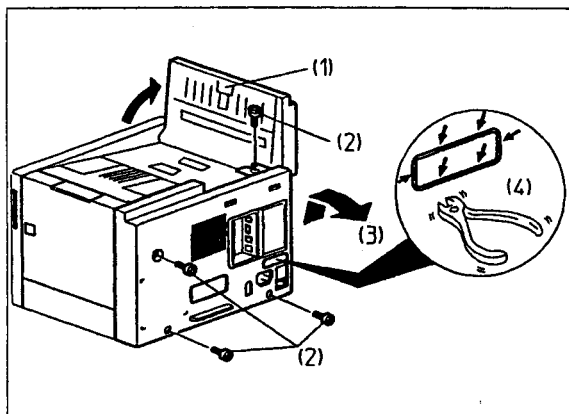
### B. Installation

1



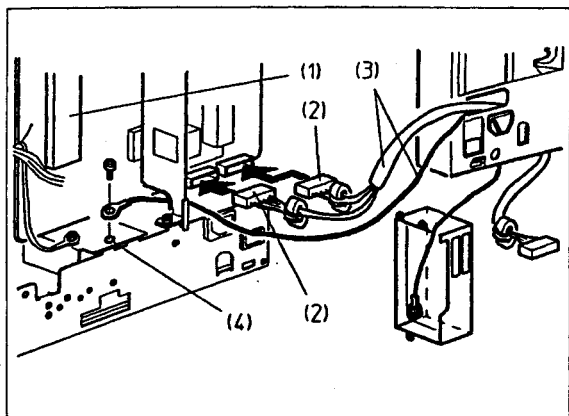
- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.

2



- (1) Open the Control Panel.
- (2) Remove four Screws.
- (3) Remove the Rear Cover.
- (4) Break off the pass through tab.

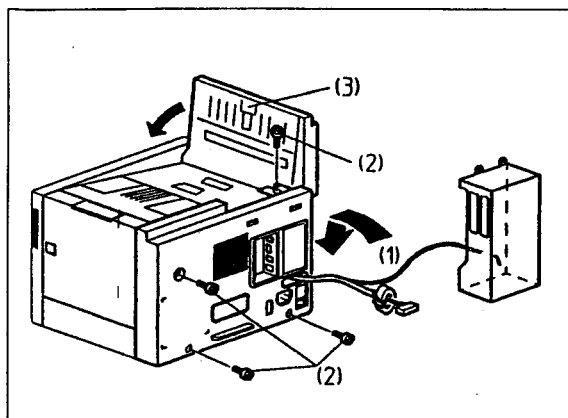
3



- (1) Replace the new Option ROM (IC2) on the FCB PC Board.
- (2) Connect the V24/ENC harness to the CNP13 and the CNP14 on the FCB PC Board.
- (3) Pass the harness and Ground wire through the opening of the Rear Cover.
- (4) Secure the Ground wire terminal to the metal Capacitor Cover with the screw as shown to the left.

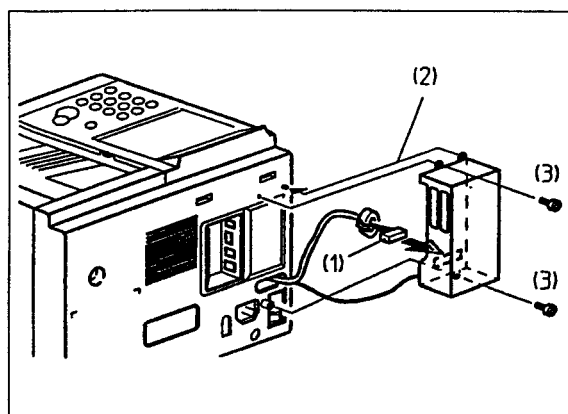
Continued on the next page.

4



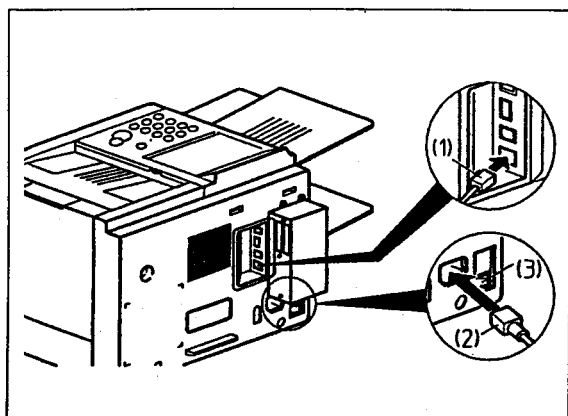
- (1) Re-install the Rear Cover.
- (2) Re-install four Screws.
- (3) Close the Control Panel.

5



- (1) Connect the V24/ENC harness to the CNP50 on the V24/ENC Interface Assembly.
- (2) Install the V24/ENC Interface Assembly to the Rear Cover.
- (3) Install the two Screws that are enclosed with the kit.

6



- (1) Re-connect the Telephone Line Cord.
- (2) Re-connect the Power Cord.
- (3) Turn the Power Switch "ON".

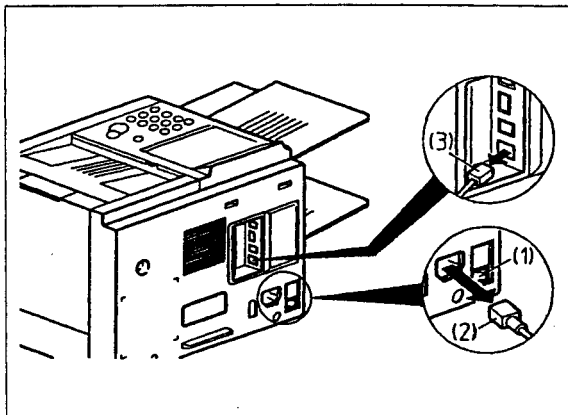
## 9.7 Installing 72-Hour Battery Kit (UE-403125\*\*)

### A. Contents

| Qty. | Description              | Part No.   | Remarks |
|------|--------------------------|------------|---------|
| 1    | 72-Hour Battery Assembly | DZMA000563 |         |
| 1    | Screw, 3 × 8             | XTB3+8J    |         |

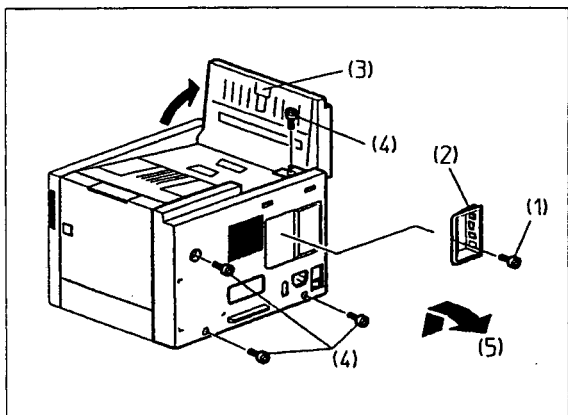
### B. Installation

1



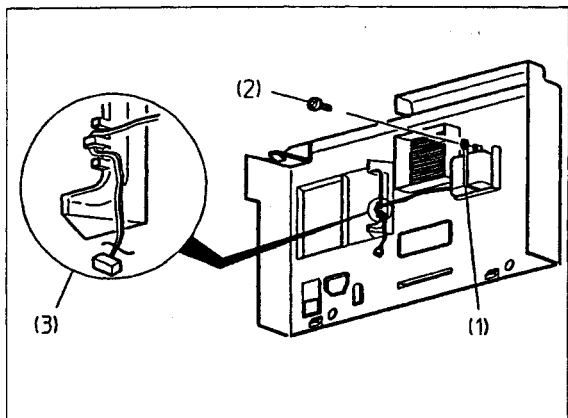
- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.

2



- (1) Remove one Screw.
- (2) Remove the Battery Cover.
- (3) Open the Control Panel.
- (4) Remove four Screws.
- (5) Remove the Rear Cover.

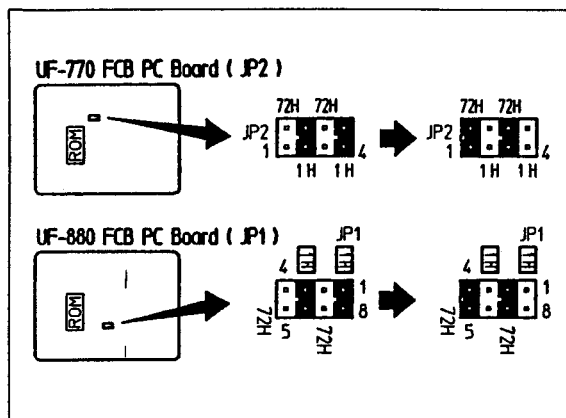
3



- (1) Install the 72-Hour Battery on the inside of the Rear Cover.
- (2) Install the Screw that is enclosed with the kit.
- (3) Route the Battery harness through the hook as shown to the left.

Continued on the next page.

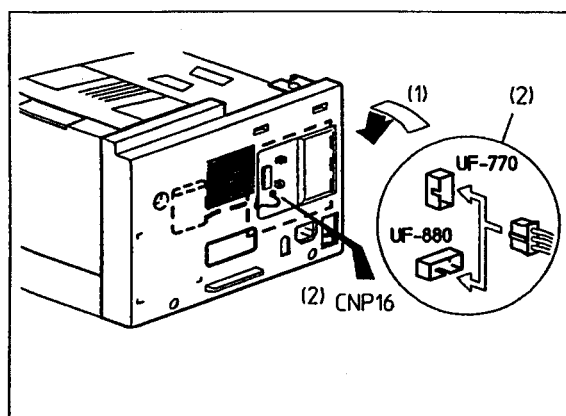
4



- (1) Change the Jumper settings from "1H" to "72H" on the FCB PCB Board.

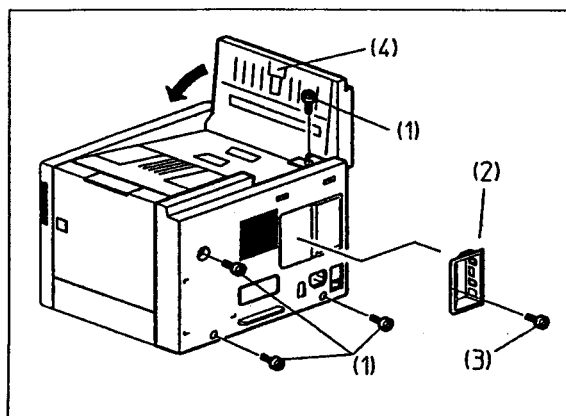
**Note:** The document information stored in the D-RAM will be lost during this setting change. However, the parameters information (i.e. Telephone No., User Parameters, etc.) store in the S-RAM is not affected.

5



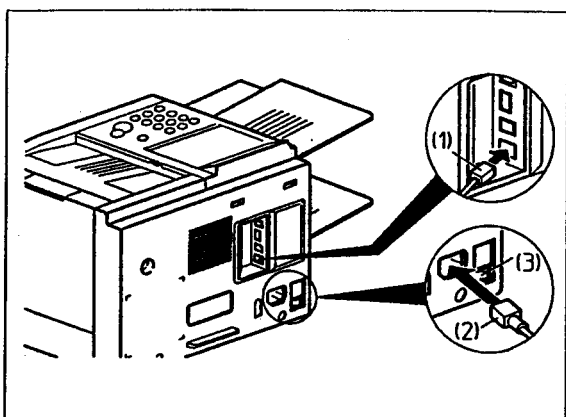
- (1) Re-install the Rear Cover.
- (2) Connect the Battery harness to the CNP16 on the FCB PC Board.

6



- (1) Re-install four Screws.
- (2) Re-install the Battery Cover.
- (3) Re-install one Screw.
- (4) Close the Control Panel.

7



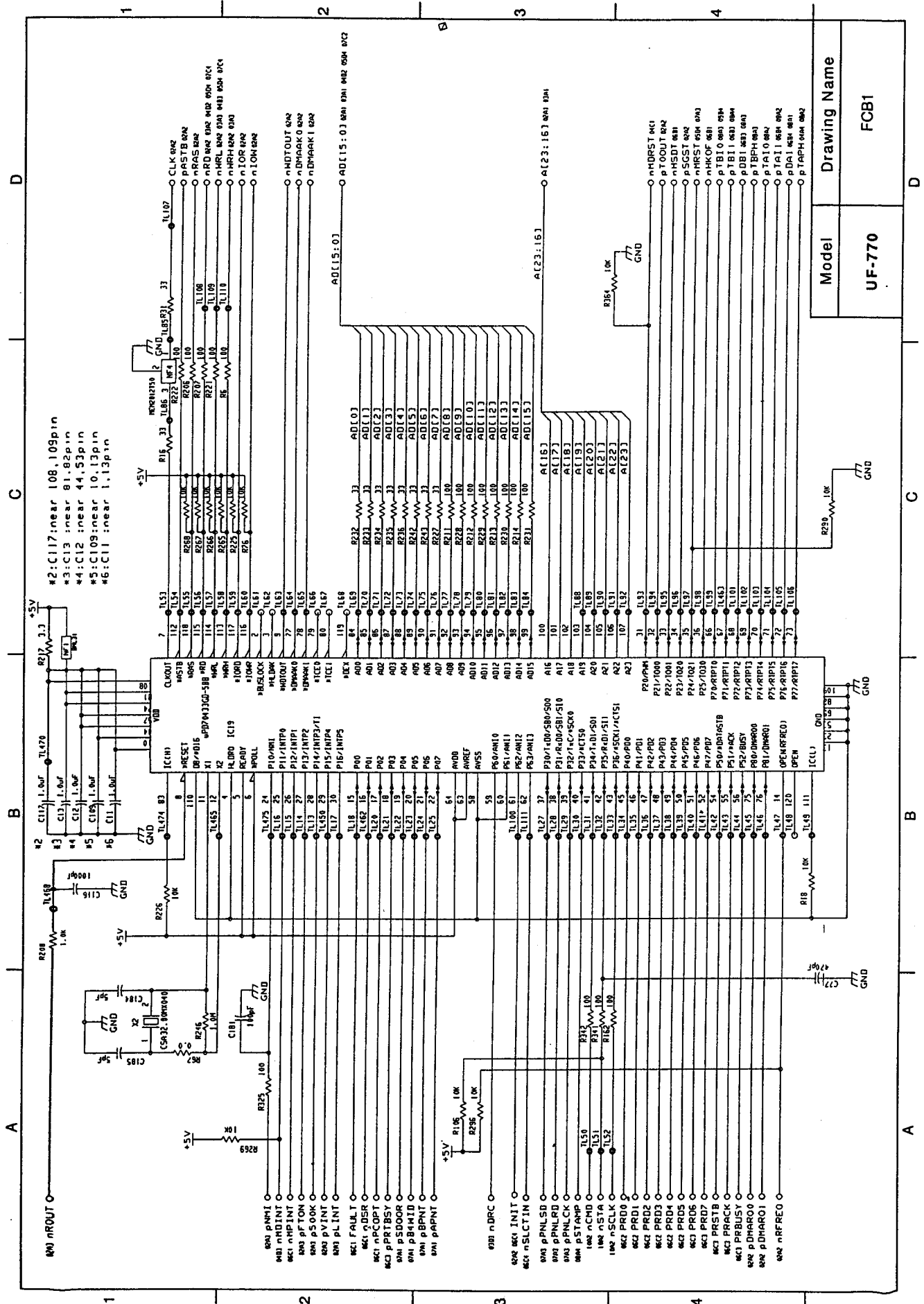
- (1) Re-connect the Telephone Line Cord.
- (2) Re-connect the Power Cord.
- (3) Turn the Power Switch "ON".

**Note:** The 72-Hour Battery Kit requires 48 hours to be fully charged after installation in the machine.

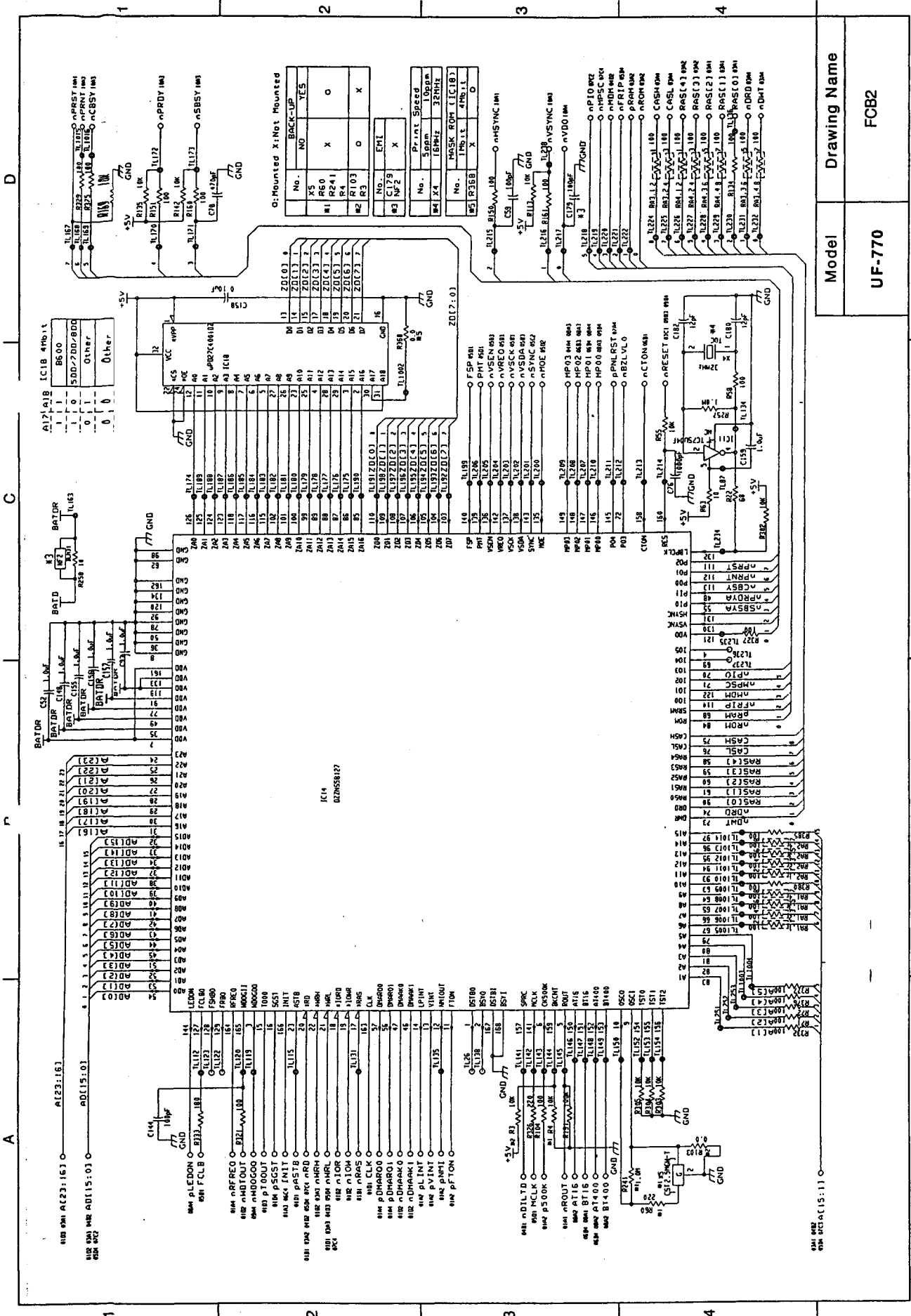
**Notes**

## **Chapter 10**

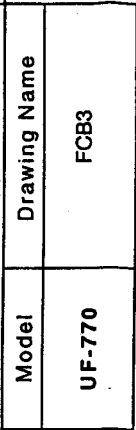
# **Schematic Diagram**



# Schematic Diagram

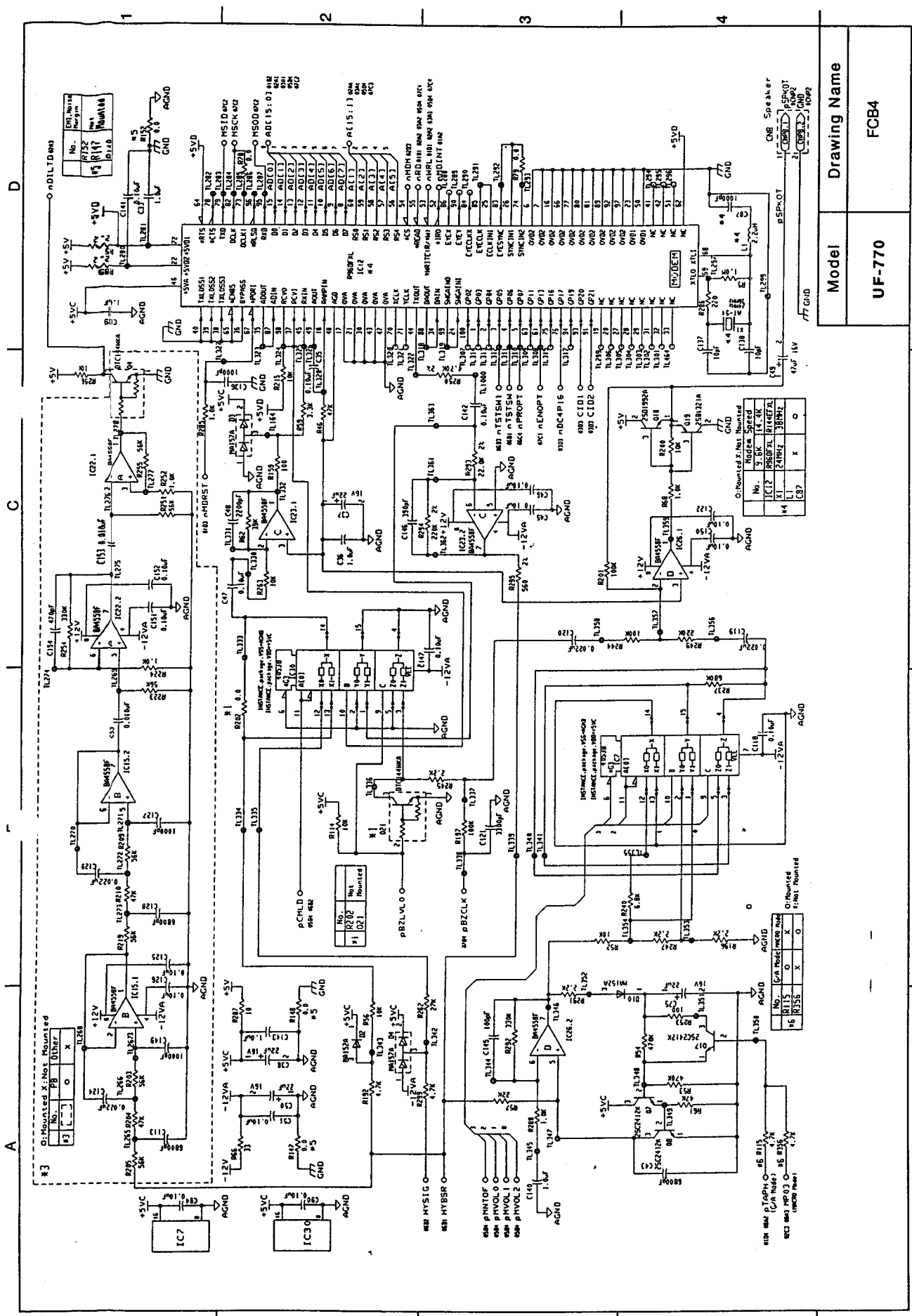






| No.  | SPAN |
|------|------|
| 1C21 |      |
| C42  | X    |
| R175 |      |
| R271 | O    |
| 1C20 |      |
| 1C6  | 64K  |
|      | 256K |

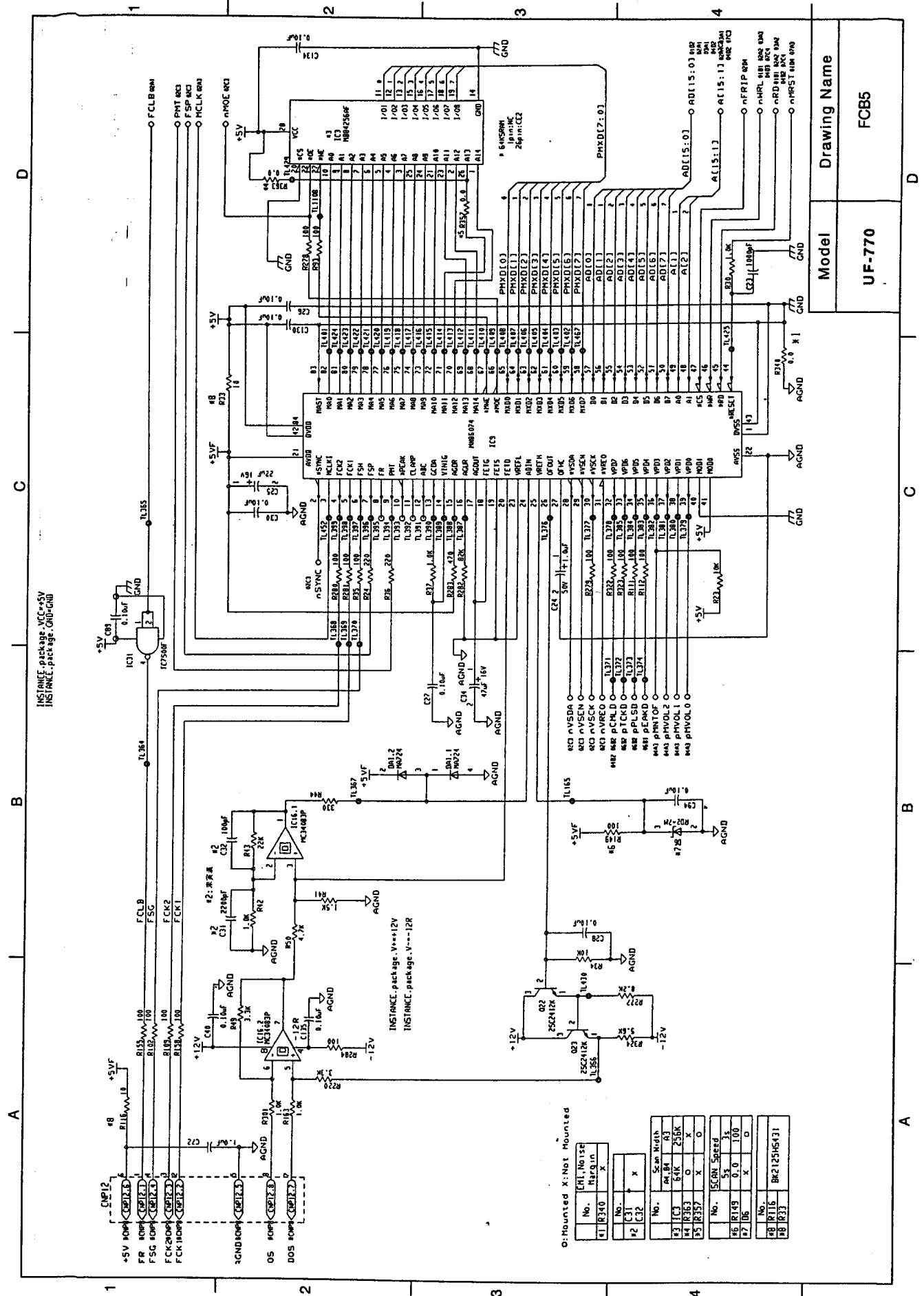
Schematic Diagram



| Model  |  | Drawing Name |  |
|--------|--|--------------|--|
| UF-770 |  | FCB4         |  |

| No. | Value | Notes |
|-----|-------|-------|
| 1   | 10K   |       |
| 2   | 10K   |       |
| 3   | 10K   |       |
| 4   | 10K   |       |
| 5   | 10K   |       |
| 6   | 10K   |       |
| 7   | 10K   |       |
| 8   | 10K   |       |
| 9   | 10K   |       |
| 10  | 10K   |       |
| 11  | 10K   |       |
| 12  | 10K   |       |
| 13  | 10K   |       |
| 14  | 10K   |       |
| 15  | 10K   |       |
| 16  | 10K   |       |
| 17  | 10K   |       |
| 18  | 10K   |       |
| 19  | 10K   |       |
| 20  | 10K   |       |
| 21  | 10K   |       |
| 22  | 10K   |       |
| 23  | 10K   |       |
| 24  | 10K   |       |
| 25  | 10K   |       |
| 26  | 10K   |       |
| 27  | 10K   |       |
| 28  | 10K   |       |
| 29  | 10K   |       |
| 30  | 10K   |       |
| 31  | 10K   |       |
| 32  | 10K   |       |
| 33  | 10K   |       |
| 34  | 10K   |       |
| 35  | 10K   |       |
| 36  | 10K   |       |
| 37  | 10K   |       |
| 38  | 10K   |       |
| 39  | 10K   |       |
| 40  | 10K   |       |
| 41  | 10K   |       |
| 42  | 10K   |       |
| 43  | 10K   |       |
| 44  | 10K   |       |
| 45  | 10K   |       |
| 46  | 10K   |       |
| 47  | 10K   |       |
| 48  | 10K   |       |
| 49  | 10K   |       |
| 50  | 10K   |       |
| 51  | 10K   |       |
| 52  | 10K   |       |
| 53  | 10K   |       |
| 54  | 10K   |       |
| 55  | 10K   |       |
| 56  | 10K   |       |
| 57  | 10K   |       |
| 58  | 10K   |       |
| 59  | 10K   |       |
| 60  | 10K   |       |
| 61  | 10K   |       |
| 62  | 10K   |       |
| 63  | 10K   |       |
| 64  | 10K   |       |
| 65  | 10K   |       |
| 66  | 10K   |       |
| 67  | 10K   |       |
| 68  | 10K   |       |
| 69  | 10K   |       |
| 70  | 10K   |       |
| 71  | 10K   |       |
| 72  | 10K   |       |
| 73  | 10K   |       |
| 74  | 10K   |       |
| 75  | 10K   |       |
| 76  | 10K   |       |
| 77  | 10K   |       |
| 78  | 10K   |       |
| 79  | 10K   |       |
| 80  | 10K   |       |
| 81  | 10K   |       |
| 82  | 10K   |       |
| 83  | 10K   |       |
| 84  | 10K   |       |
| 85  | 10K   |       |
| 86  | 10K   |       |
| 87  | 10K   |       |
| 88  | 10K   |       |
| 89  | 10K   |       |
| 90  | 10K   |       |
| 91  | 10K   |       |
| 92  | 10K   |       |
| 93  | 10K   |       |
| 94  | 10K   |       |
| 95  | 10K   |       |
| 96  | 10K   |       |
| 97  | 10K   |       |
| 98  | 10K   |       |
| 99  | 10K   |       |
| 100 | 10K   |       |

| No. | Value | Notes |
|-----|-------|-------|
| 1   | 10K   |       |
| 2   | 10K   |       |
| 3   | 10K   |       |
| 4   | 10K   |       |
| 5   | 10K   |       |
| 6   | 10K   |       |
| 7   | 10K   |       |
| 8   | 10K   |       |
| 9   | 10K   |       |
| 10  | 10K   |       |
| 11  | 10K   |       |
| 12  | 10K   |       |
| 13  | 10K   |       |
| 14  | 10K   |       |
| 15  | 10K   |       |
| 16  | 10K   |       |
| 17  | 10K   |       |
| 18  | 10K   |       |
| 19  | 10K   |       |
| 20  | 10K   |       |
| 21  | 10K   |       |
| 22  | 10K   |       |
| 23  | 10K   |       |
| 24  | 10K   |       |
| 25  | 10K   |       |
| 26  | 10K   |       |
| 27  | 10K   |       |
| 28  | 10K   |       |
| 29  | 10K   |       |
| 30  | 10K   |       |
| 31  | 10K   |       |
| 32  | 10K   |       |
| 33  | 10K   |       |
| 34  | 10K   |       |
| 35  | 10K   |       |
| 36  | 10K   |       |
| 37  | 10K   |       |
| 38  | 10K   |       |
| 39  | 10K   |       |
| 40  | 10K   |       |
| 41  | 10K   |       |
| 42  | 10K   |       |
| 43  | 10K   |       |
| 44  | 10K   |       |
| 45  | 10K   |       |
| 46  | 10K   |       |
| 47  | 10K   |       |
| 48  | 10K   |       |
| 49  | 10K   |       |
| 50  | 10K   |       |
| 51  | 10K   |       |
| 52  | 10K   |       |
| 53  | 10K   |       |
| 54  | 10K   |       |
| 55  | 10K   |       |
| 56  | 10K   |       |
| 57  | 10K   |       |
| 58  | 10K   |       |
| 59  | 10K   |       |
| 60  | 10K   |       |
| 61  | 10K   |       |
| 62  | 10K   |       |
| 63  | 10K   |       |
| 64  | 10K   |       |
| 65  | 10K   |       |
| 66  | 10K   |       |
| 67  | 10K   |       |
| 68  | 10K   |       |
| 69  | 10K   |       |
| 70  | 10K   |       |
| 71  | 10K   |       |
| 72  | 10K   |       |
| 73  | 10K   |       |
| 74  | 10K   |       |
| 75  | 10K   |       |
| 76  | 10K   |       |
| 77  | 10K   |       |
| 78  | 10K   |       |
| 79  | 10K   |       |
| 80  | 10K   |       |
| 81  | 10K   |       |
| 82  | 10K   |       |
| 83  | 10K   |       |
| 84  | 10K   |       |
| 85  | 10K   |       |
| 86  | 10K   |       |
| 87  | 10K   |       |
| 88  | 10K   |       |
| 89  | 10K   |       |
| 90  | 10K   |       |
| 91  | 10K   |       |
| 92  | 10K   |       |
| 93  | 10K   |       |
| 94  | 10K   |       |
| 95  | 10K   |       |
| 96  | 10K   |       |
| 97  | 10K   |       |
| 98  | 10K   |       |
| 99  | 10K   |       |
| 100 | 10K   |       |



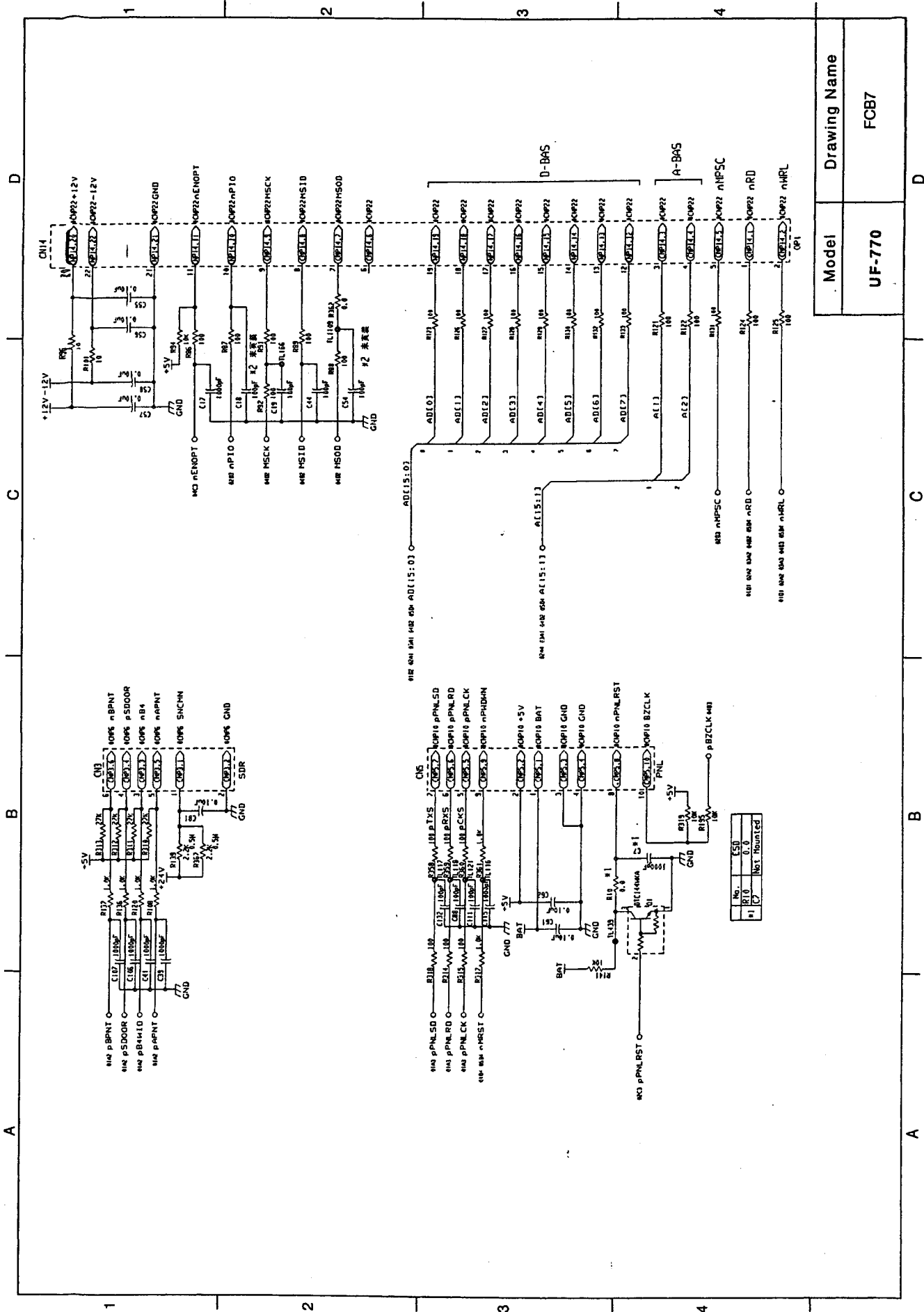
Drawing Name

FCB5

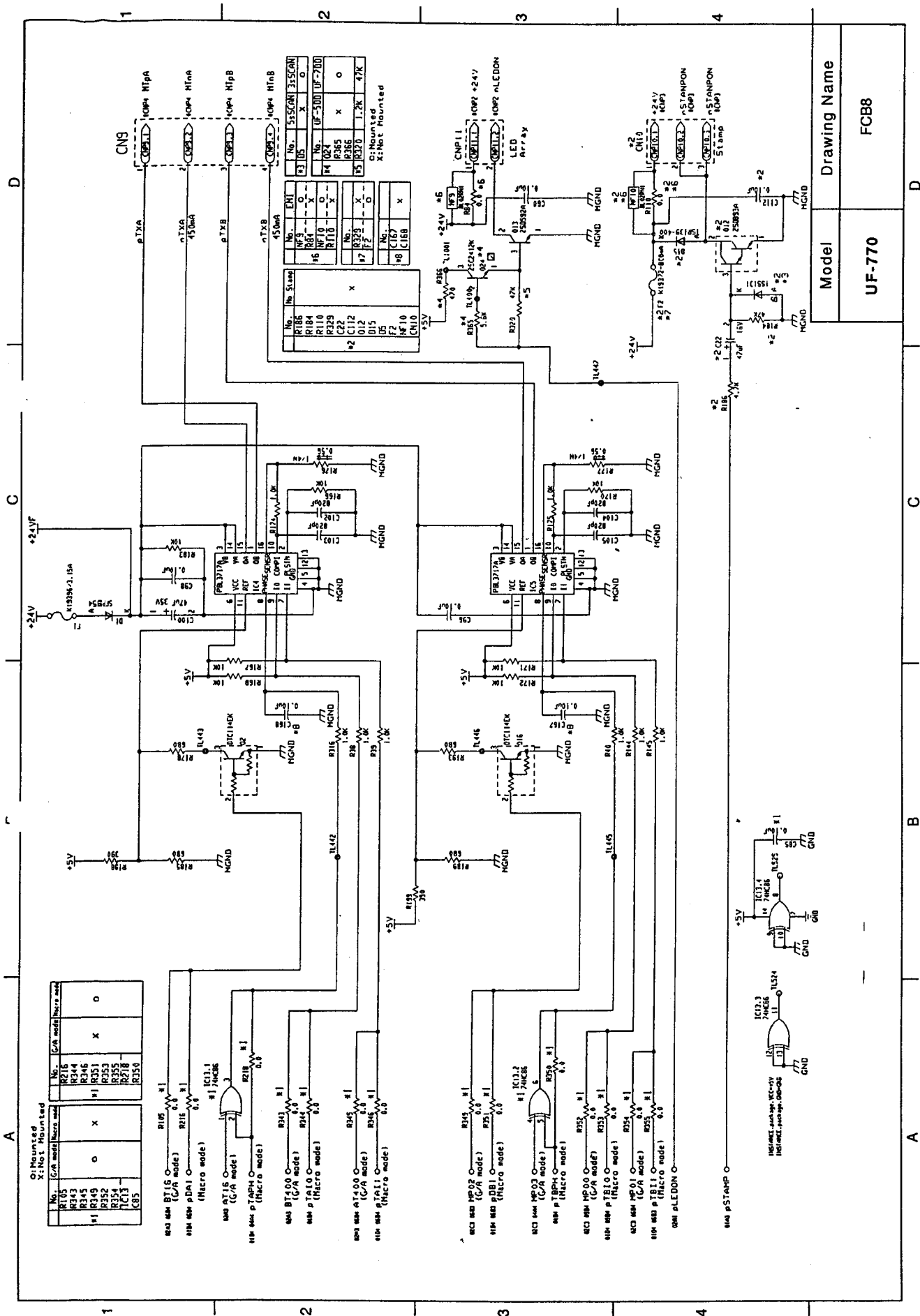
Model

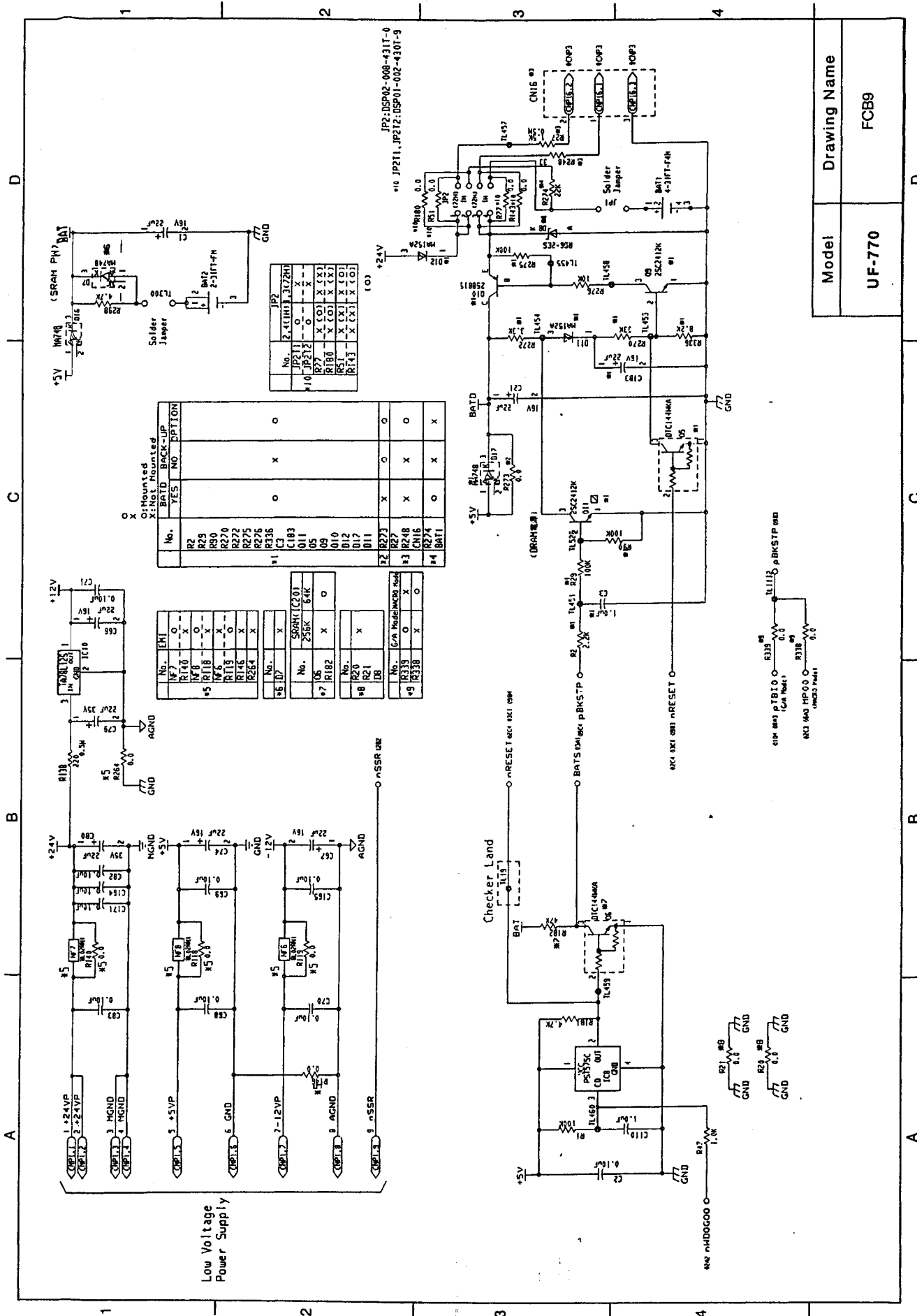
UF-770

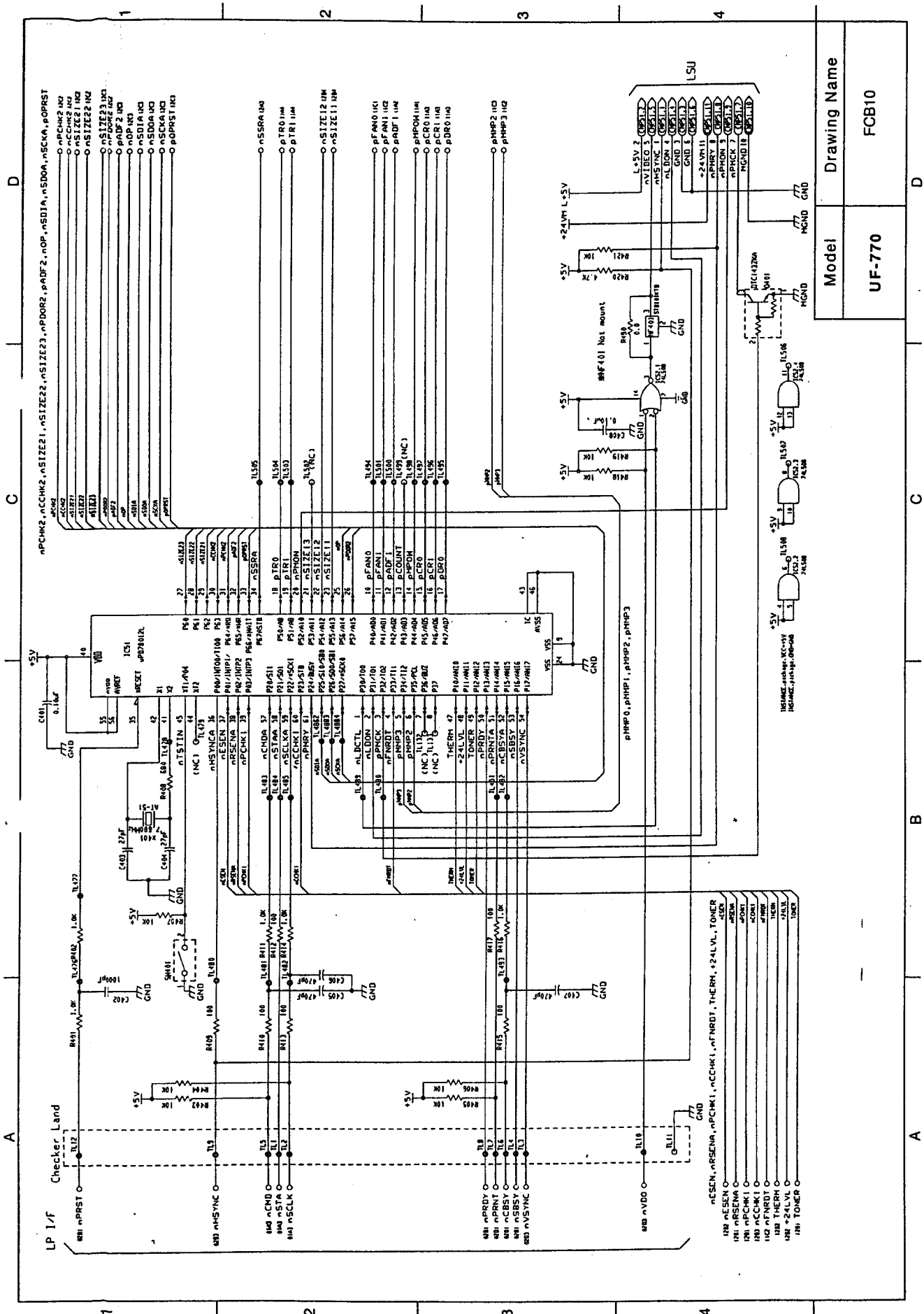




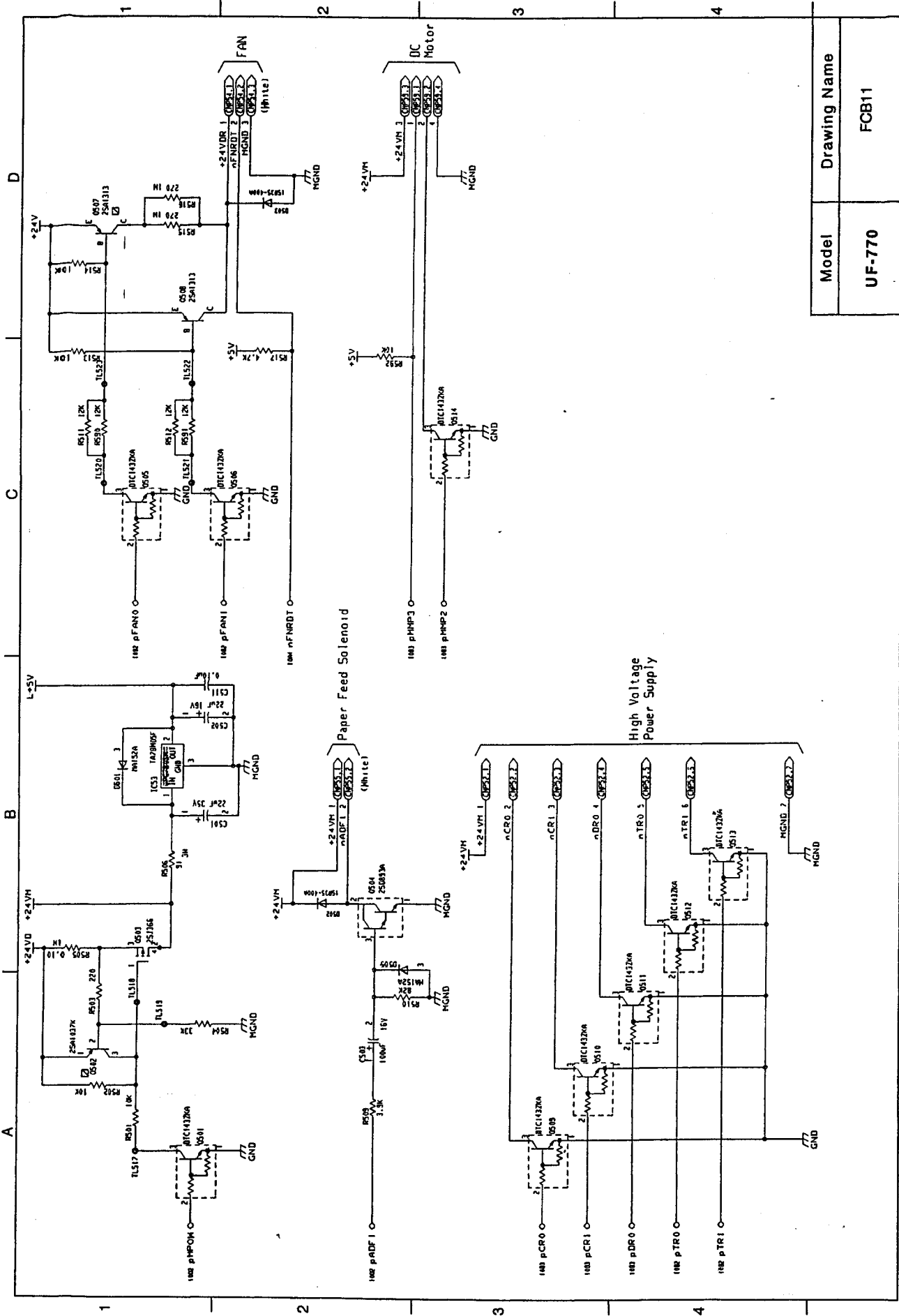
| Model  | Drawing Name |
|--------|--------------|
| UF-770 | FCB7         |



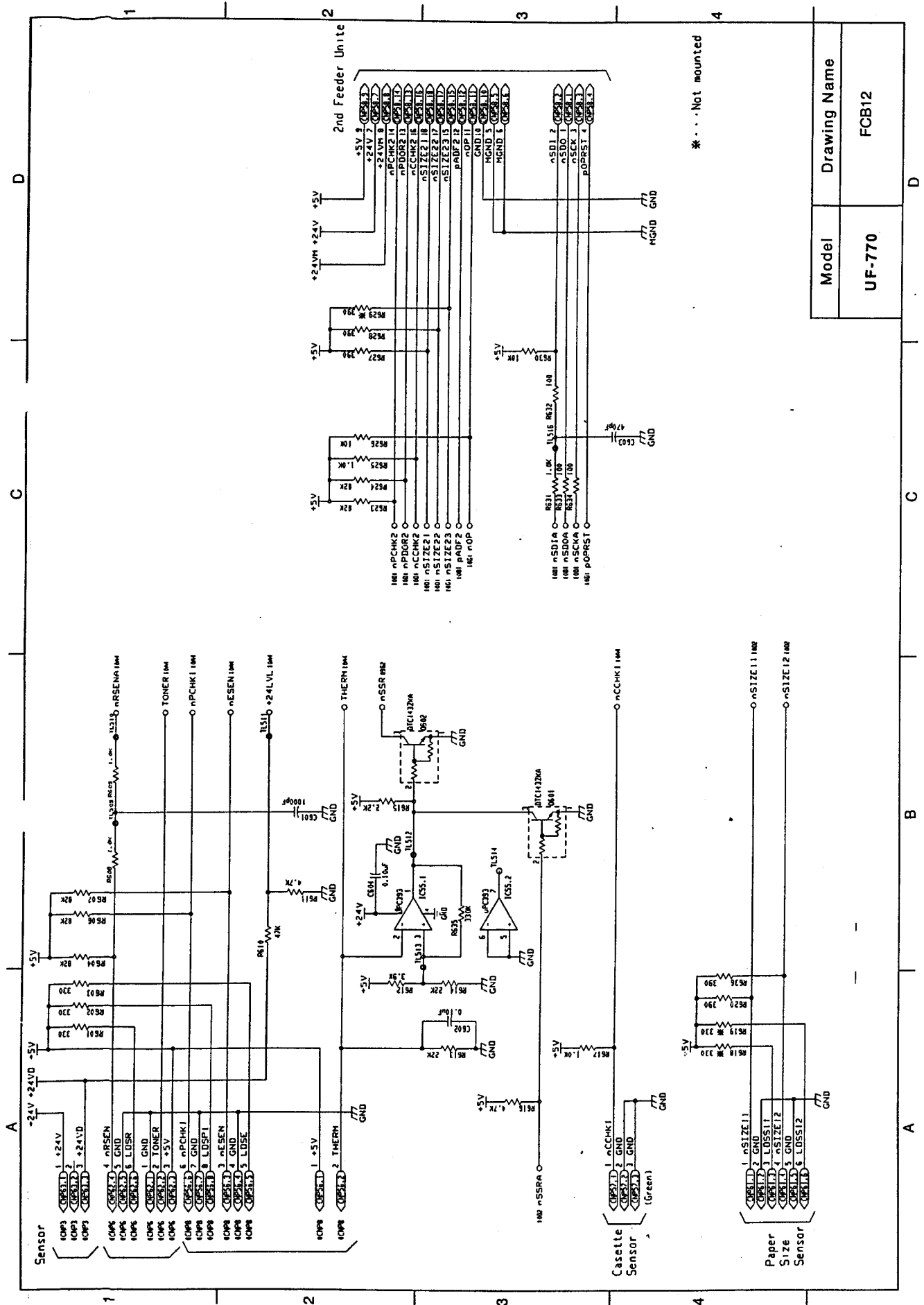


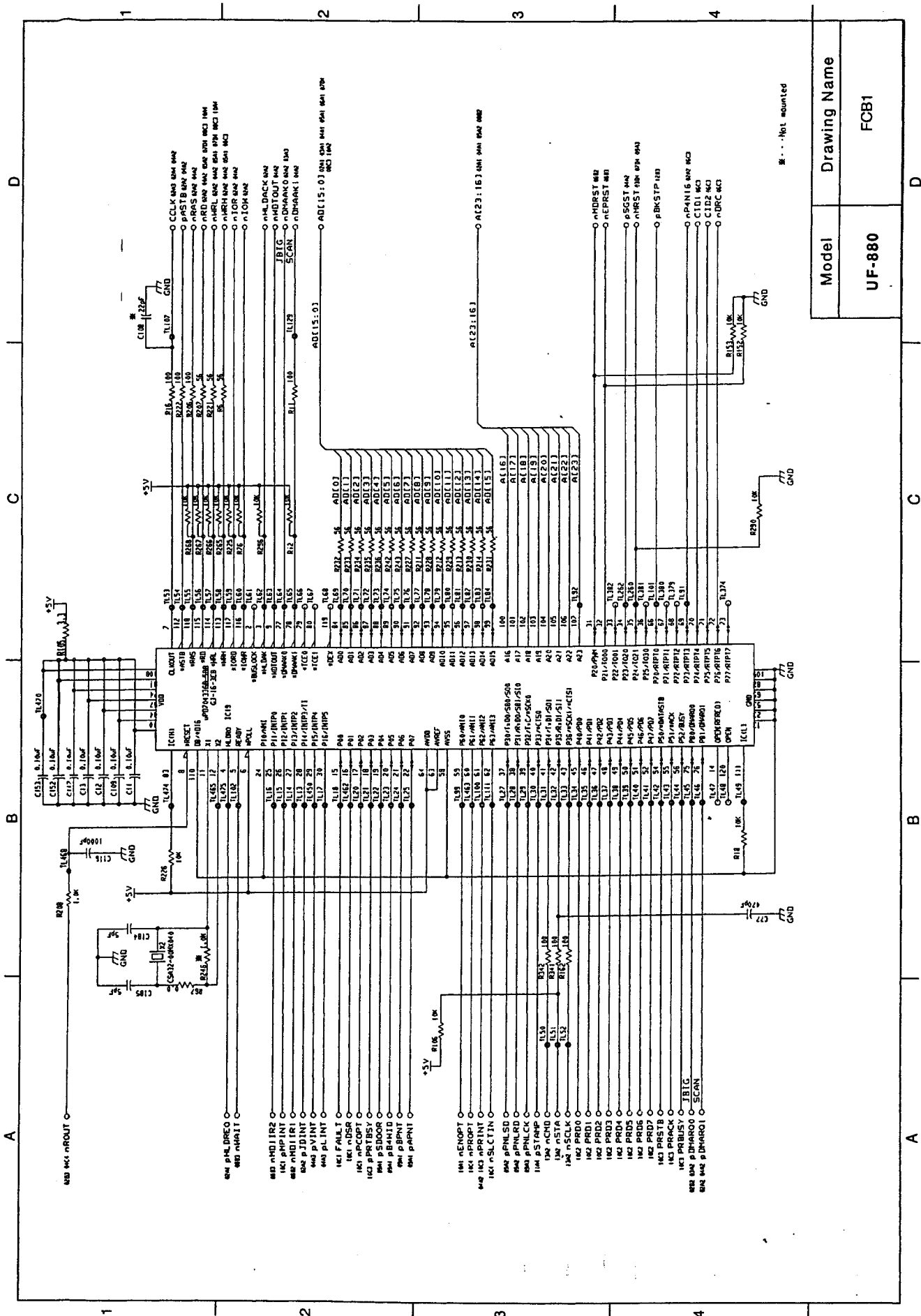




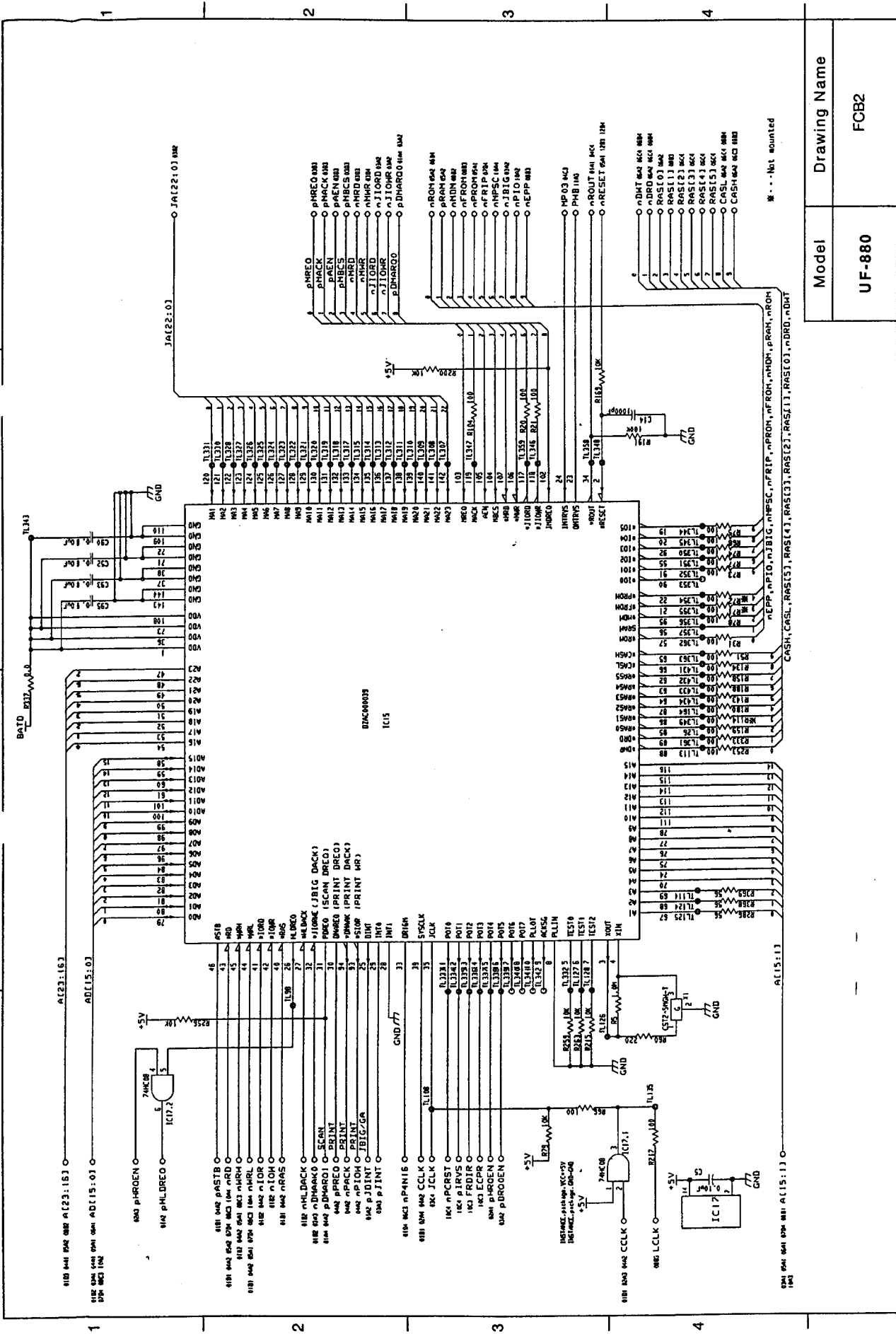


| Model  | Drawing Name |
|--------|--------------|
| UF-770 | FCB11        |

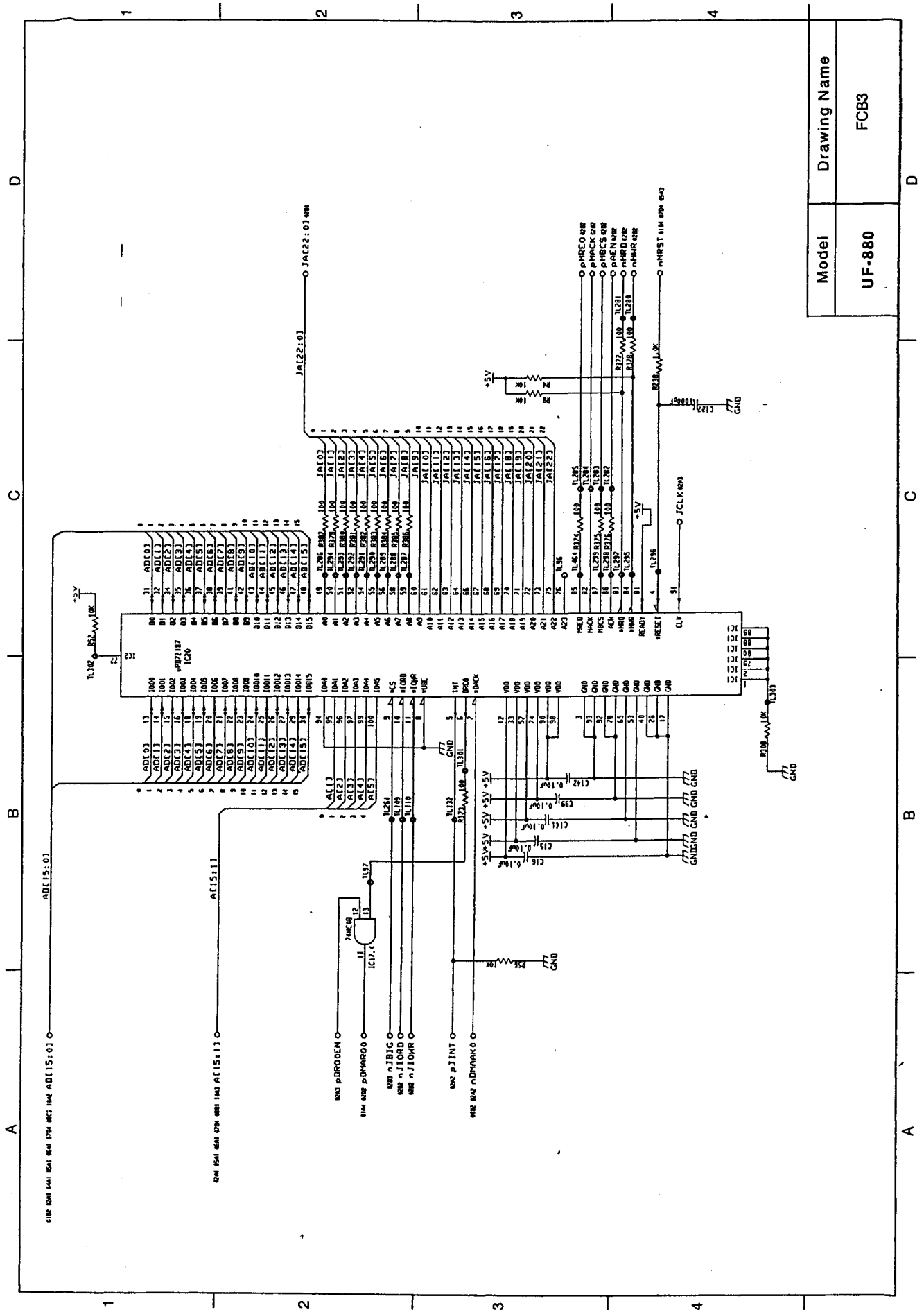




# Schematic Diagram

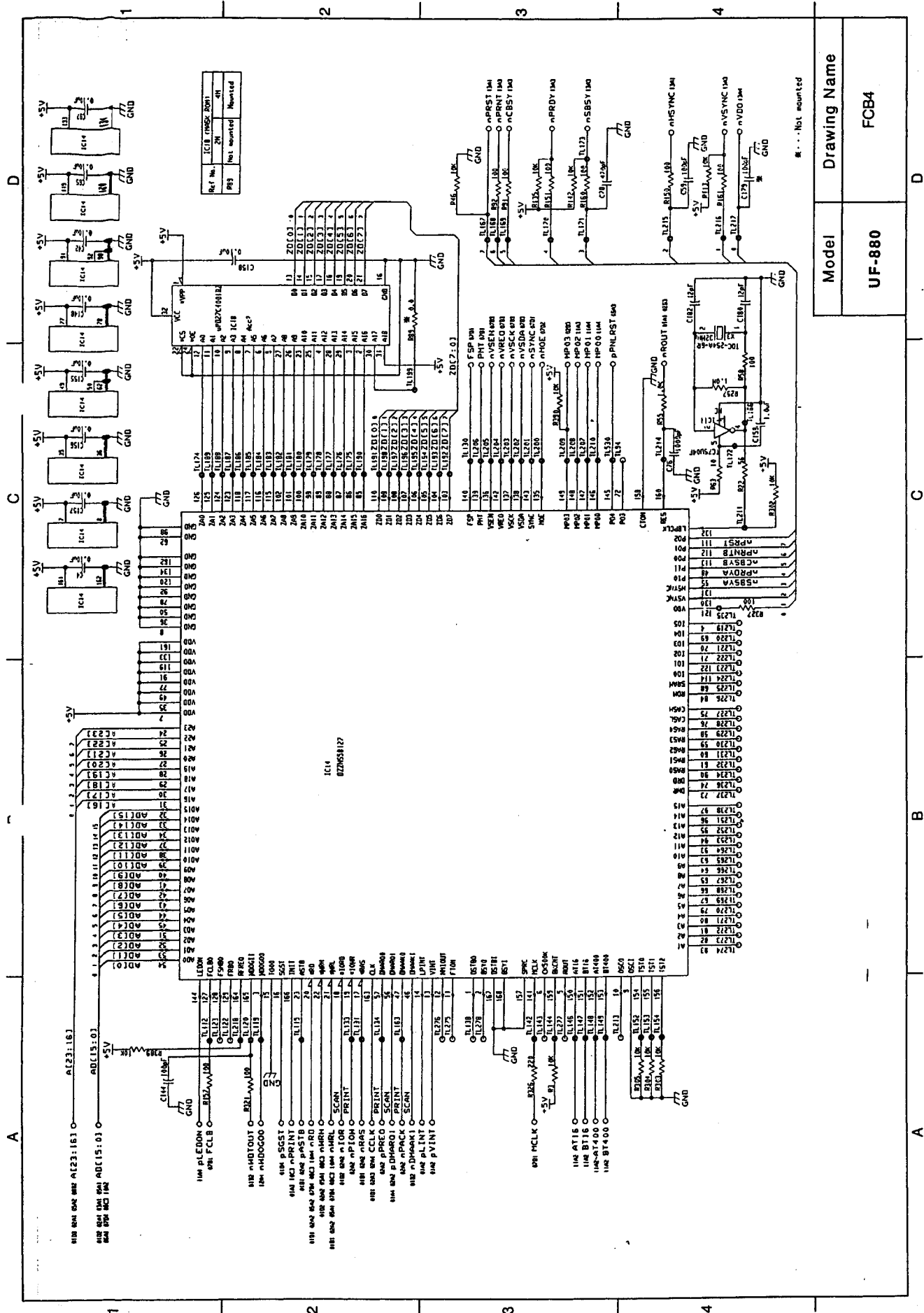


| Model  | Drawing Name |
|--------|--------------|
| UF-880 | FCB2         |

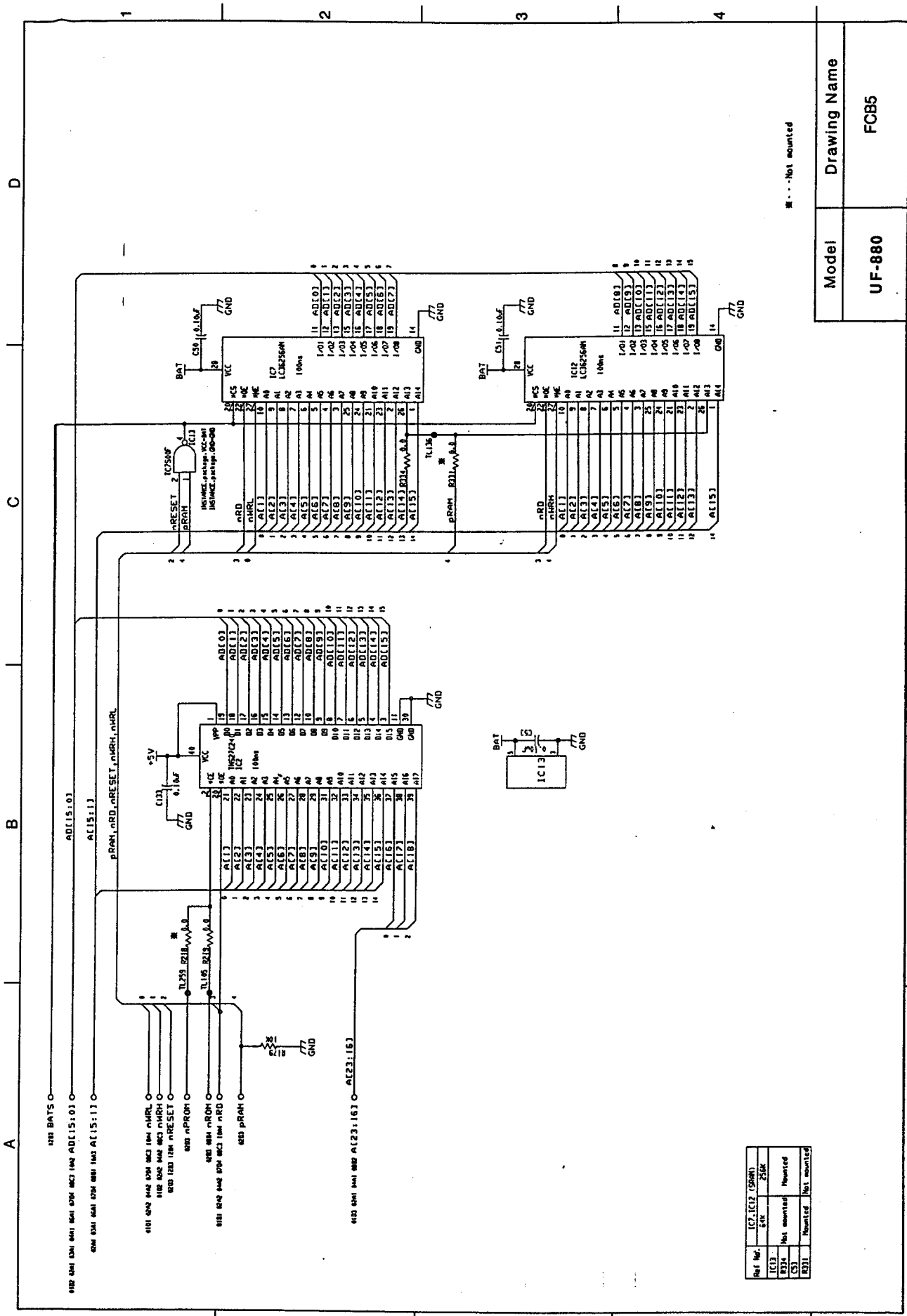


| Model  | Drawing Name |
|--------|--------------|
| UF-880 | FCB3         |

# Schematic Diagram



| Model  | Drawing Name |
|--------|--------------|
| UF-880 | FCB4         |

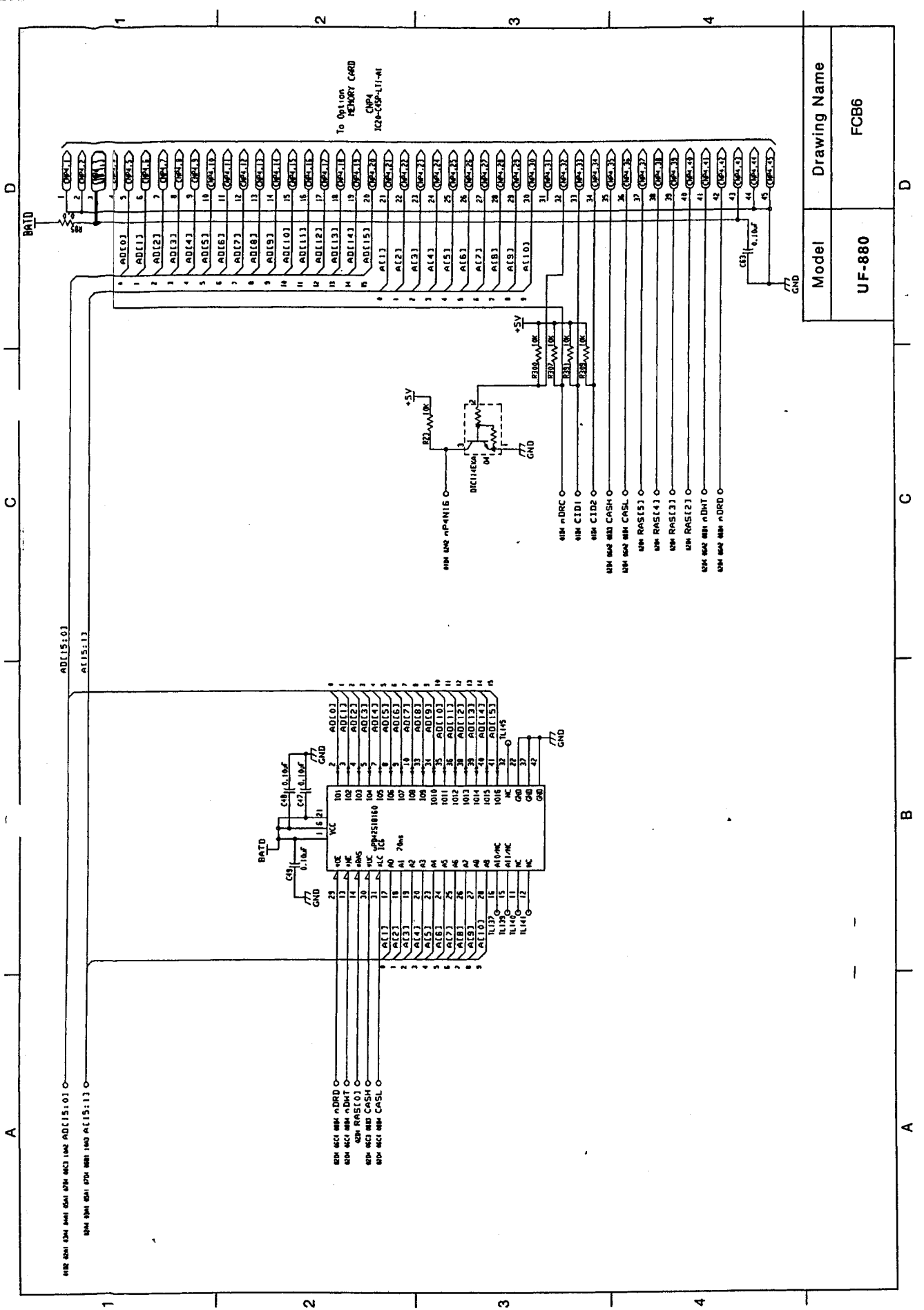


...Not mounted

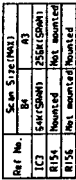
| Model  | Drawing Name |
|--------|--------------|
| UF-880 | FCB5         |

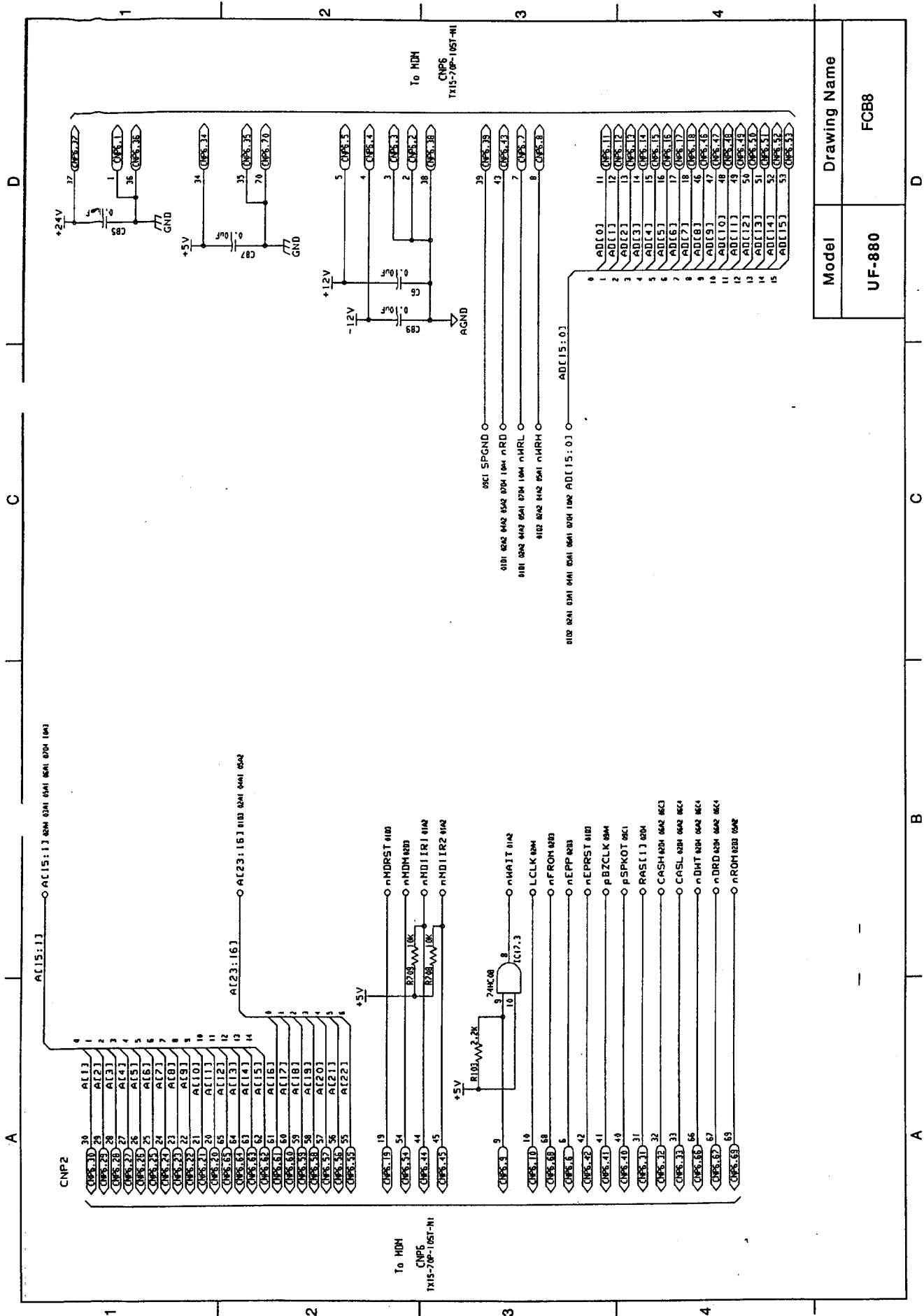
| Ref. No. | IC12 (27C01) | IC13 (27C01) |
|----------|--------------|--------------|
| 101      | Not mounted  | Not mounted  |
| 102      | Not mounted  | Not mounted  |
| 103      | Not mounted  | Not mounted  |
| 104      | Not mounted  | Not mounted  |
| 105      | Not mounted  | Not mounted  |
| 106      | Not mounted  | Not mounted  |
| 107      | Not mounted  | Not mounted  |
| 108      | Not mounted  | Not mounted  |
| 109      | Not mounted  | Not mounted  |
| 110      | Not mounted  | Not mounted  |
| 111      | Not mounted  | Not mounted  |
| 112      | Not mounted  | Not mounted  |
| 113      | Not mounted  | Not mounted  |
| 114      | Not mounted  | Not mounted  |
| 115      | Not mounted  | Not mounted  |
| 116      | Not mounted  | Not mounted  |
| 117      | Not mounted  | Not mounted  |
| 118      | Not mounted  | Not mounted  |
| 119      | Not mounted  | Not mounted  |
| 120      | Not mounted  | Not mounted  |
| 121      | Not mounted  | Not mounted  |
| 122      | Not mounted  | Not mounted  |
| 123      | Not mounted  | Not mounted  |
| 124      | Not mounted  | Not mounted  |
| 125      | Not mounted  | Not mounted  |
| 126      | Not mounted  | Not mounted  |
| 127      | Not mounted  | Not mounted  |
| 128      | Not mounted  | Not mounted  |
| 129      | Not mounted  | Not mounted  |
| 130      | Not mounted  | Not mounted  |
| 131      | Not mounted  | Not mounted  |
| 132      | Not mounted  | Not mounted  |
| 133      | Not mounted  | Not mounted  |
| 134      | Not mounted  | Not mounted  |
| 135      | Not mounted  | Not mounted  |
| 136      | Not mounted  | Not mounted  |
| 137      | Not mounted  | Not mounted  |
| 138      | Not mounted  | Not mounted  |
| 139      | Not mounted  | Not mounted  |
| 140      | Not mounted  | Not mounted  |
| 141      | Not mounted  | Not mounted  |
| 142      | Not mounted  | Not mounted  |
| 143      | Not mounted  | Not mounted  |
| 144      | Not mounted  | Not mounted  |
| 145      | Not mounted  | Not mounted  |
| 146      | Not mounted  | Not mounted  |
| 147      | Not mounted  | Not mounted  |
| 148      | Not mounted  | Not mounted  |
| 149      | Not mounted  | Not mounted  |
| 150      | Not mounted  | Not mounted  |
| 151      | Not mounted  | Not mounted  |
| 152      | Not mounted  | Not mounted  |
| 153      | Not mounted  | Not mounted  |
| 154      | Not mounted  | Not mounted  |
| 155      | Not mounted  | Not mounted  |
| 156      | Not mounted  | Not mounted  |
| 157      | Not mounted  | Not mounted  |
| 158      | Not mounted  | Not mounted  |
| 159      | Not mounted  | Not mounted  |
| 160      | Not mounted  | Not mounted  |
| 161      | Not mounted  | Not mounted  |
| 162      | Not mounted  | Not mounted  |
| 163      | Not mounted  | Not mounted  |
| 164      | Not mounted  | Not mounted  |
| 165      | Not mounted  | Not mounted  |
| 166      | Not mounted  | Not mounted  |
| 167      | Not mounted  | Not mounted  |
| 168      | Not mounted  | Not mounted  |
| 169      | Not mounted  | Not mounted  |
| 170      | Not mounted  | Not mounted  |
| 171      | Not mounted  | Not mounted  |
| 172      | Not mounted  | Not mounted  |
| 173      | Not mounted  | Not mounted  |
| 174      | Not mounted  | Not mounted  |
| 175      | Not mounted  | Not mounted  |
| 176      | Not mounted  | Not mounted  |
| 177      | Not mounted  | Not mounted  |
| 178      | Not mounted  | Not mounted  |
| 179      | Not mounted  | Not mounted  |
| 180      | Not mounted  | Not mounted  |
| 181      | Not mounted  | Not mounted  |
| 182      | Not mounted  | Not mounted  |
| 183      | Not mounted  | Not mounted  |
| 184      | Not mounted  | Not mounted  |
| 185      | Not mounted  | Not mounted  |
| 186      | Not mounted  | Not mounted  |
| 187      | Not mounted  | Not mounted  |
| 188      | Not mounted  | Not mounted  |
| 189      | Not mounted  | Not mounted  |
| 190      | Not mounted  | Not mounted  |
| 191      | Not mounted  | Not mounted  |
| 192      | Not mounted  | Not mounted  |
| 193      | Not mounted  | Not mounted  |
| 194      | Not mounted  | Not mounted  |
| 195      | Not mounted  | Not mounted  |
| 196      | Not mounted  | Not mounted  |
| 197      | Not mounted  | Not mounted  |
| 198      | Not mounted  | Not mounted  |
| 199      | Not mounted  | Not mounted  |
| 200      | Not mounted  | Not mounted  |

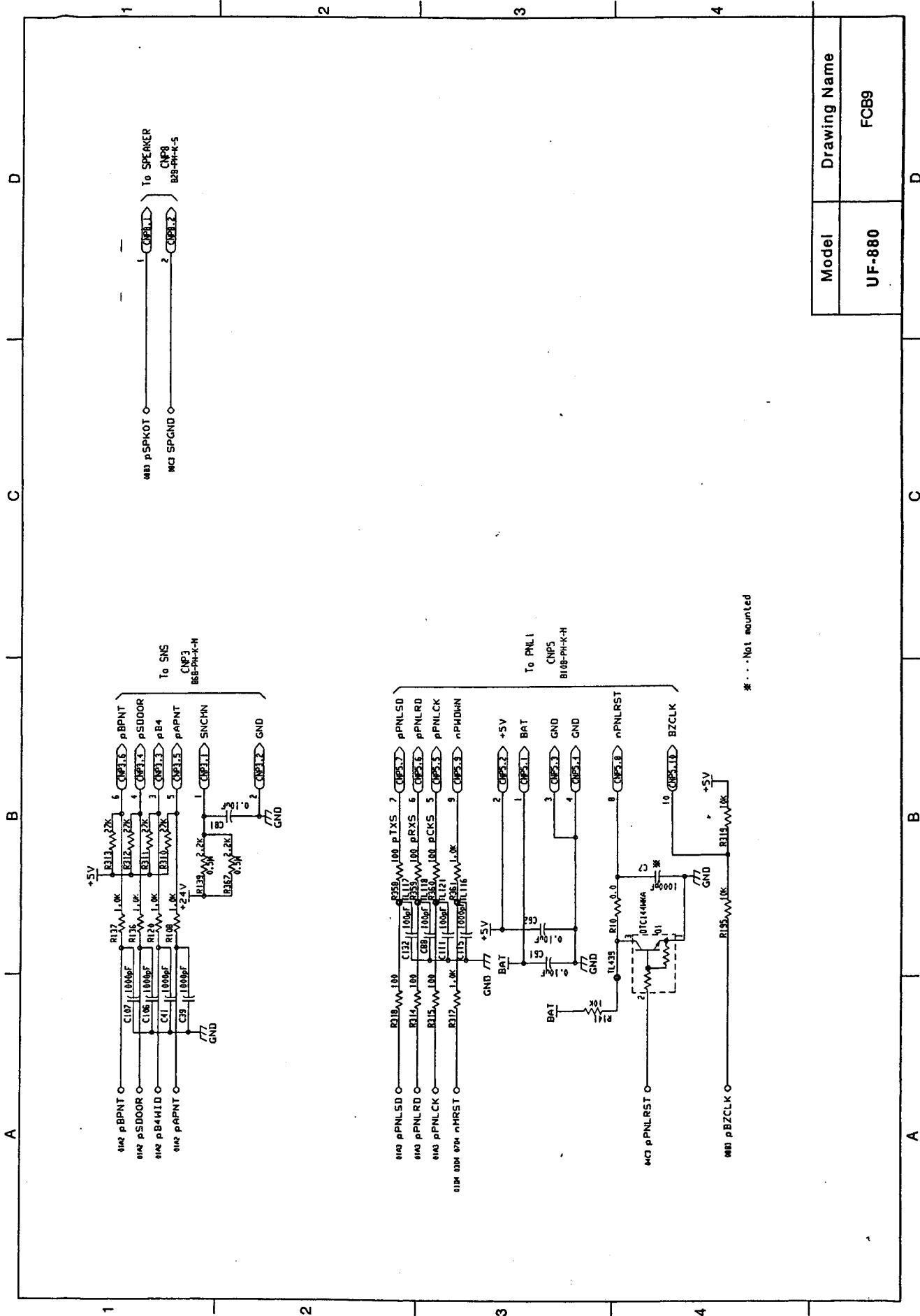
Schematic Diagram





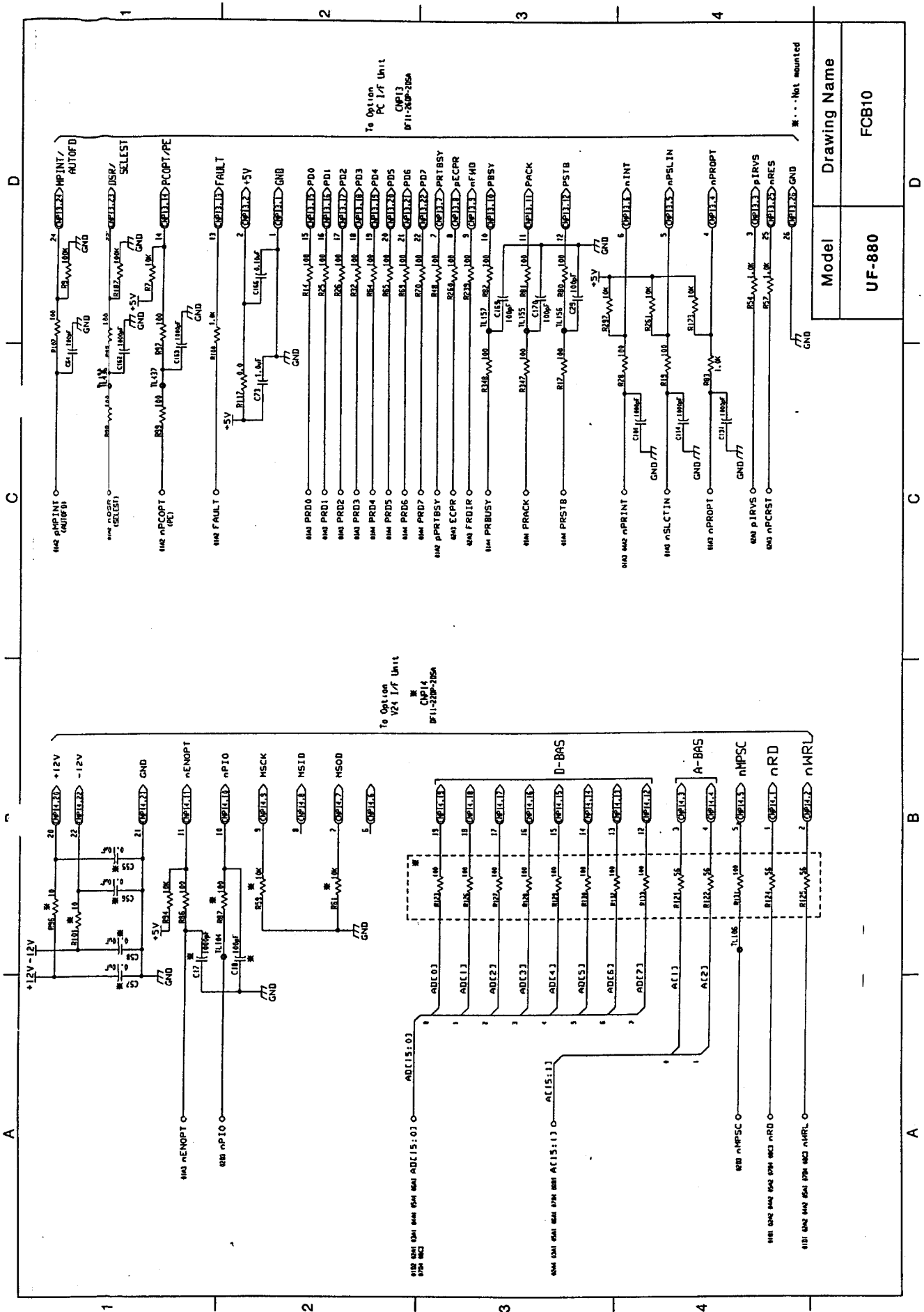






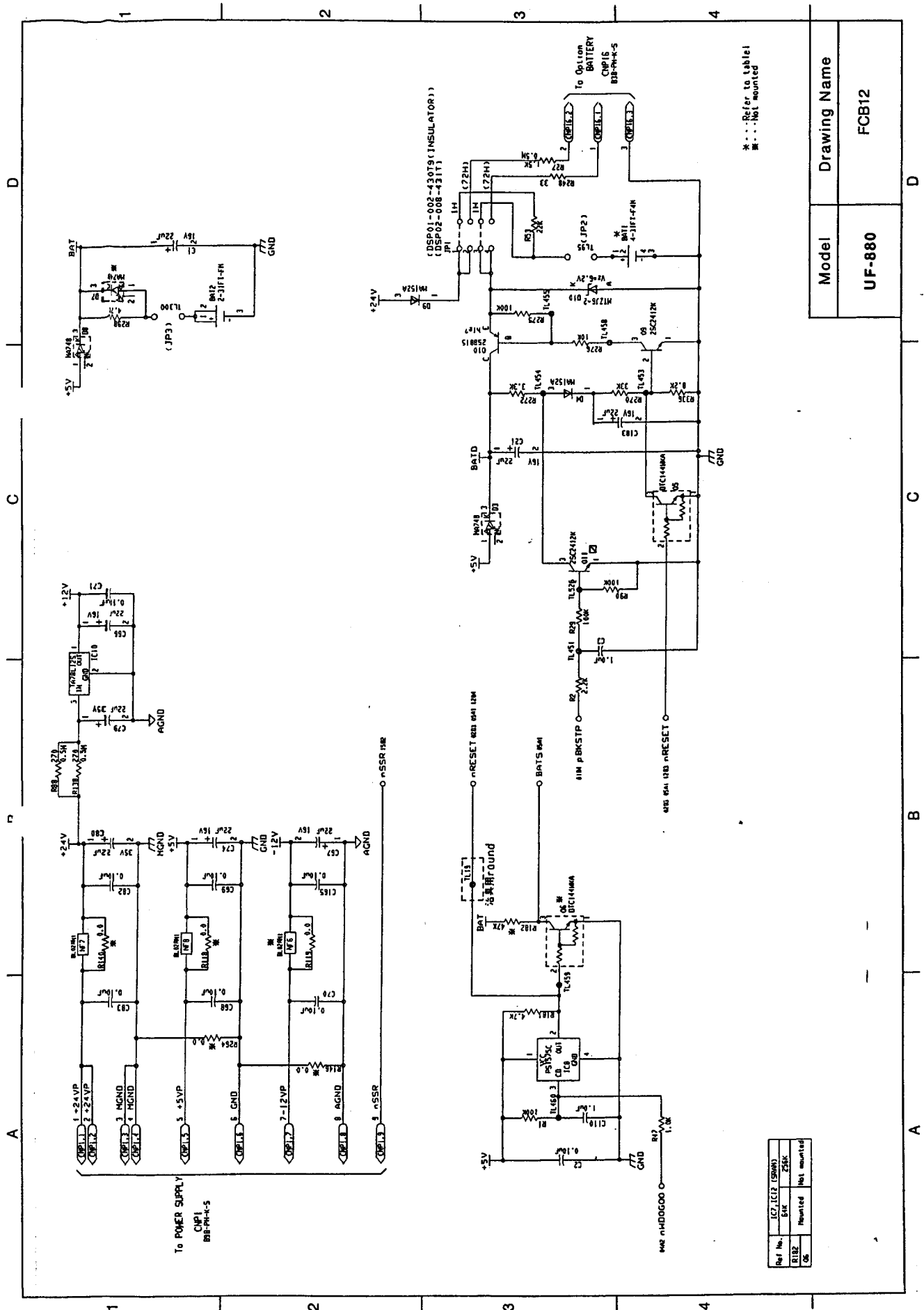
| Model  | Drawing Name |
|--------|--------------|
| UF-880 | FCB9         |

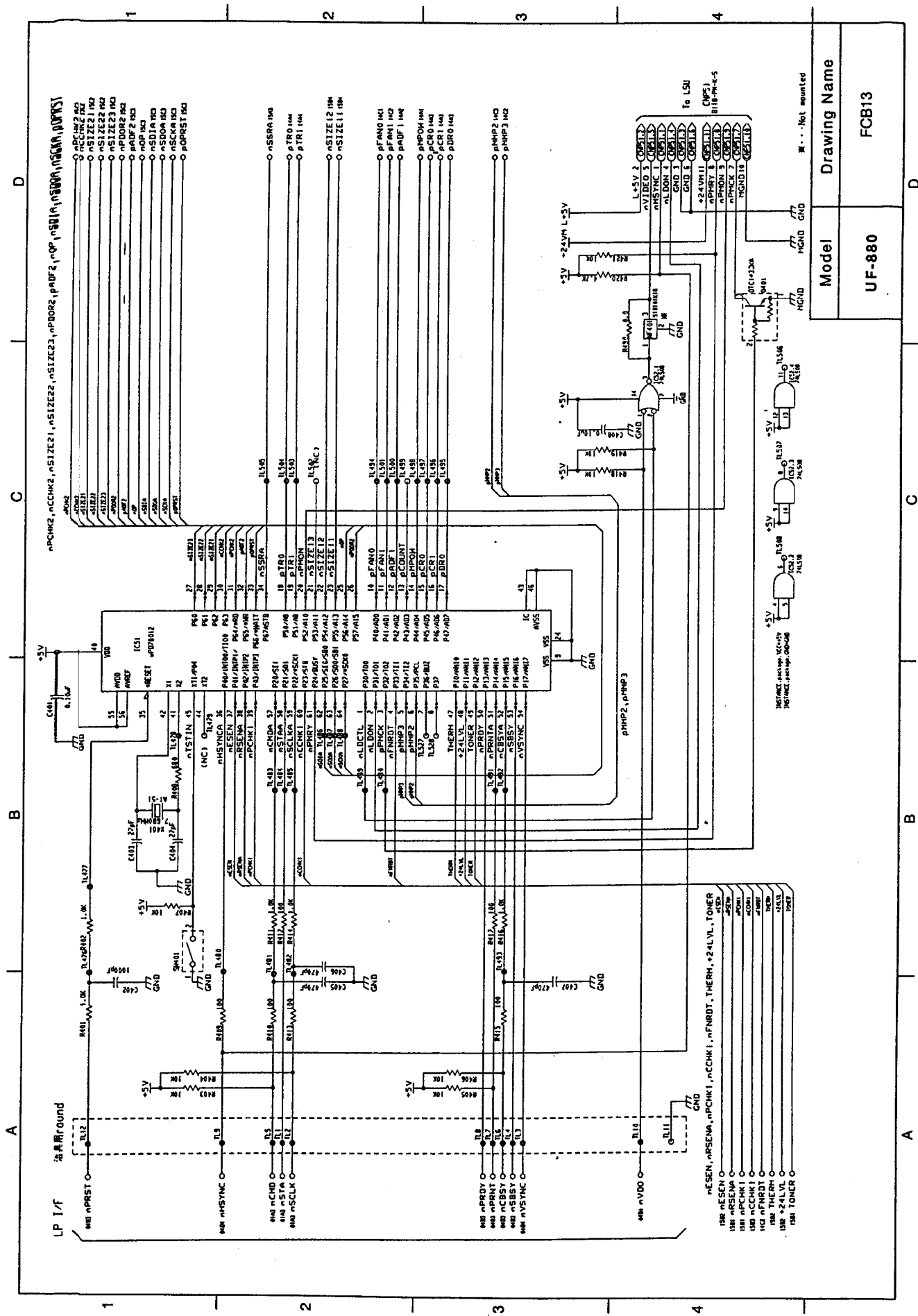
# Schematic Diagram



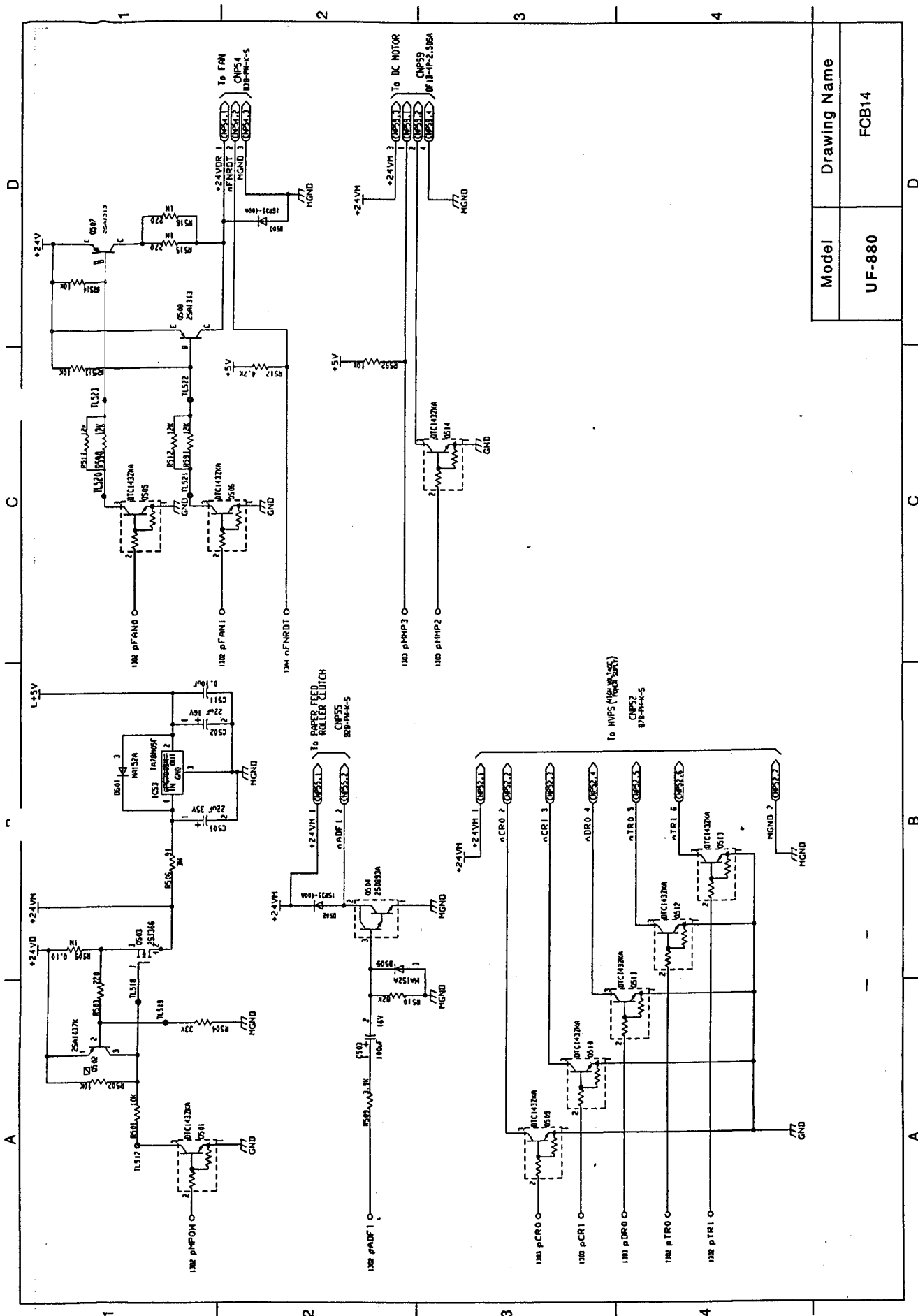


# Schematic Diagram



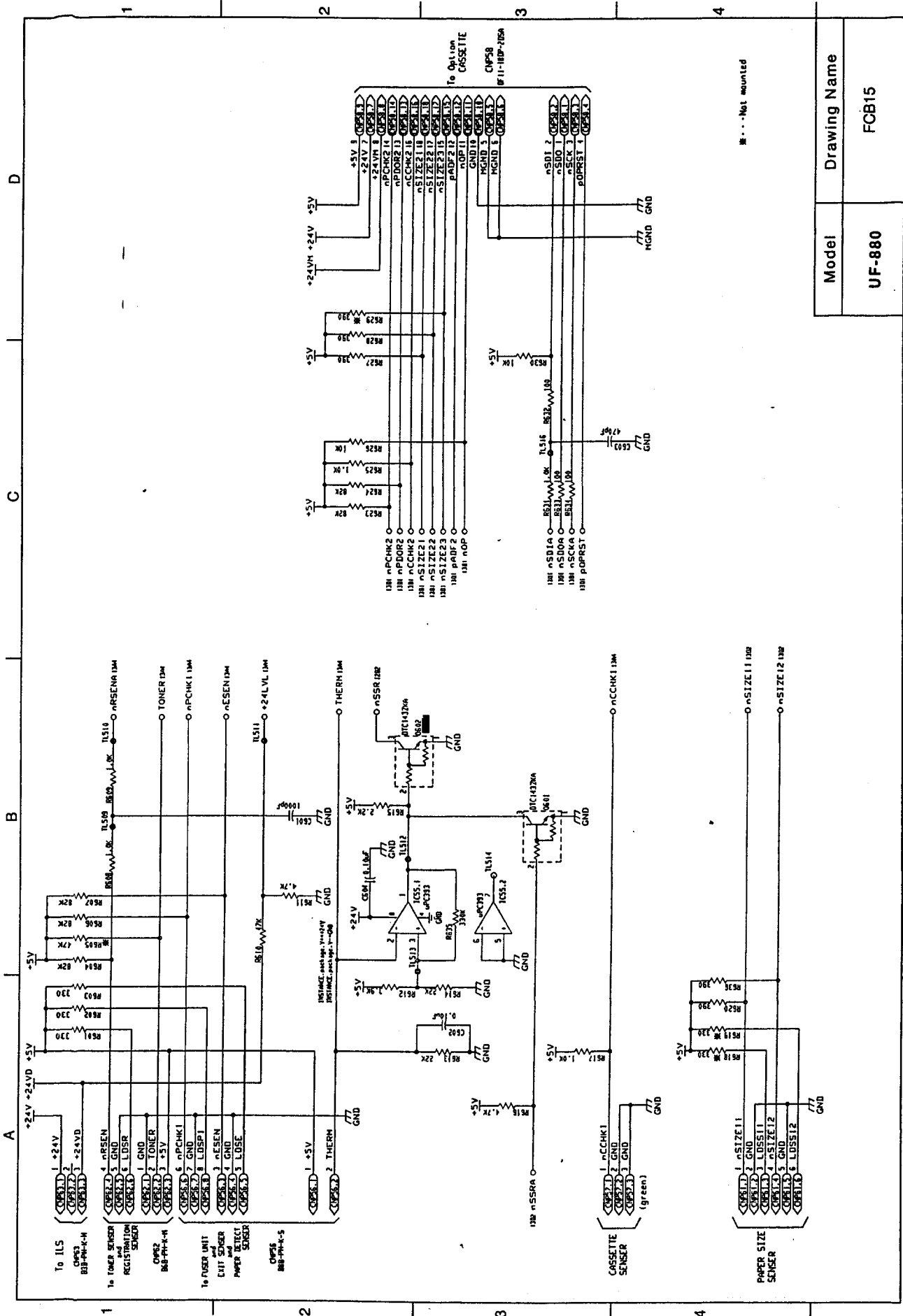


# Schematic Diagram

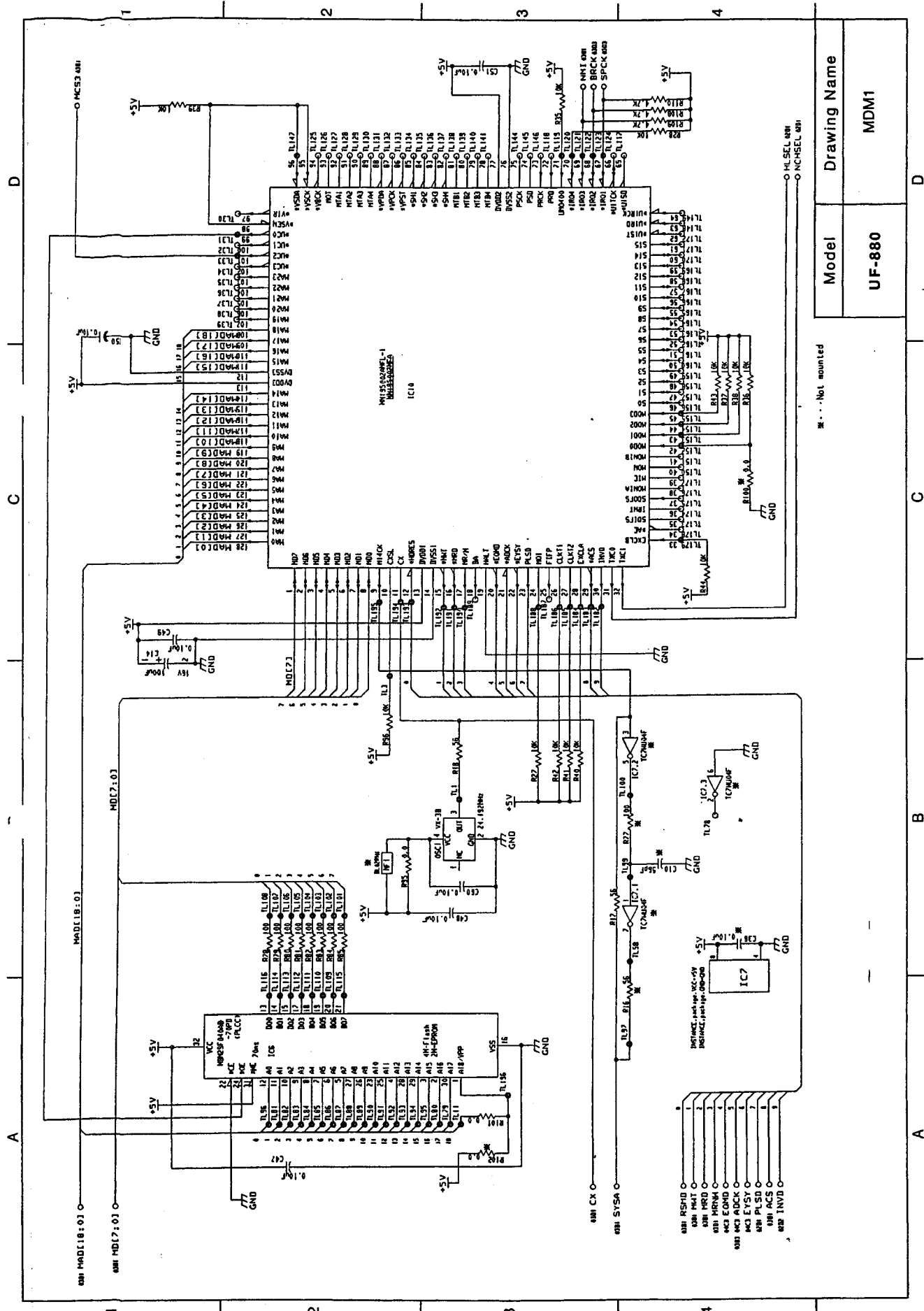


|              |        |
|--------------|--------|
| Model        | UF-880 |
| Drawing Name | FCB14  |

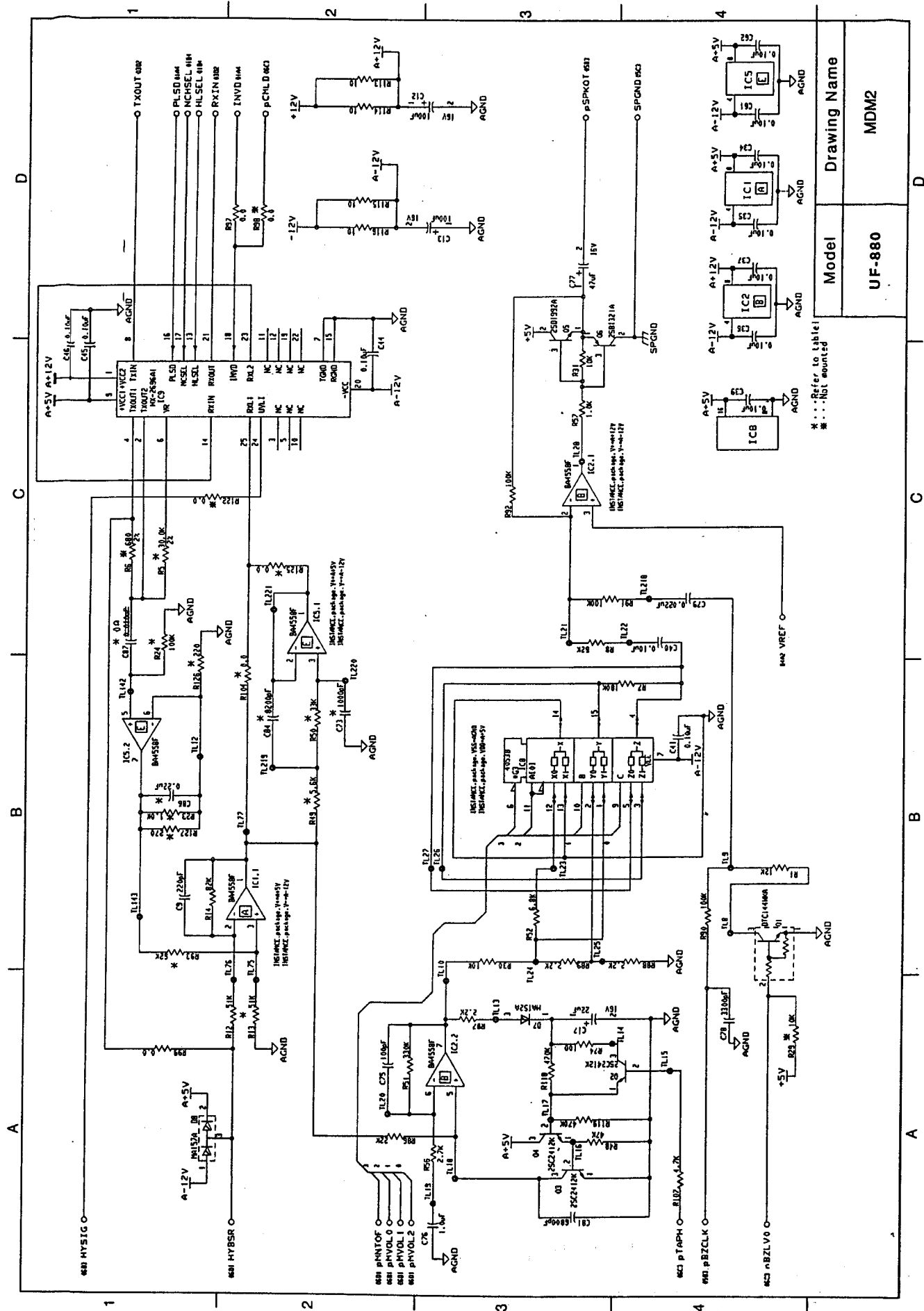




# Schematic Diagram

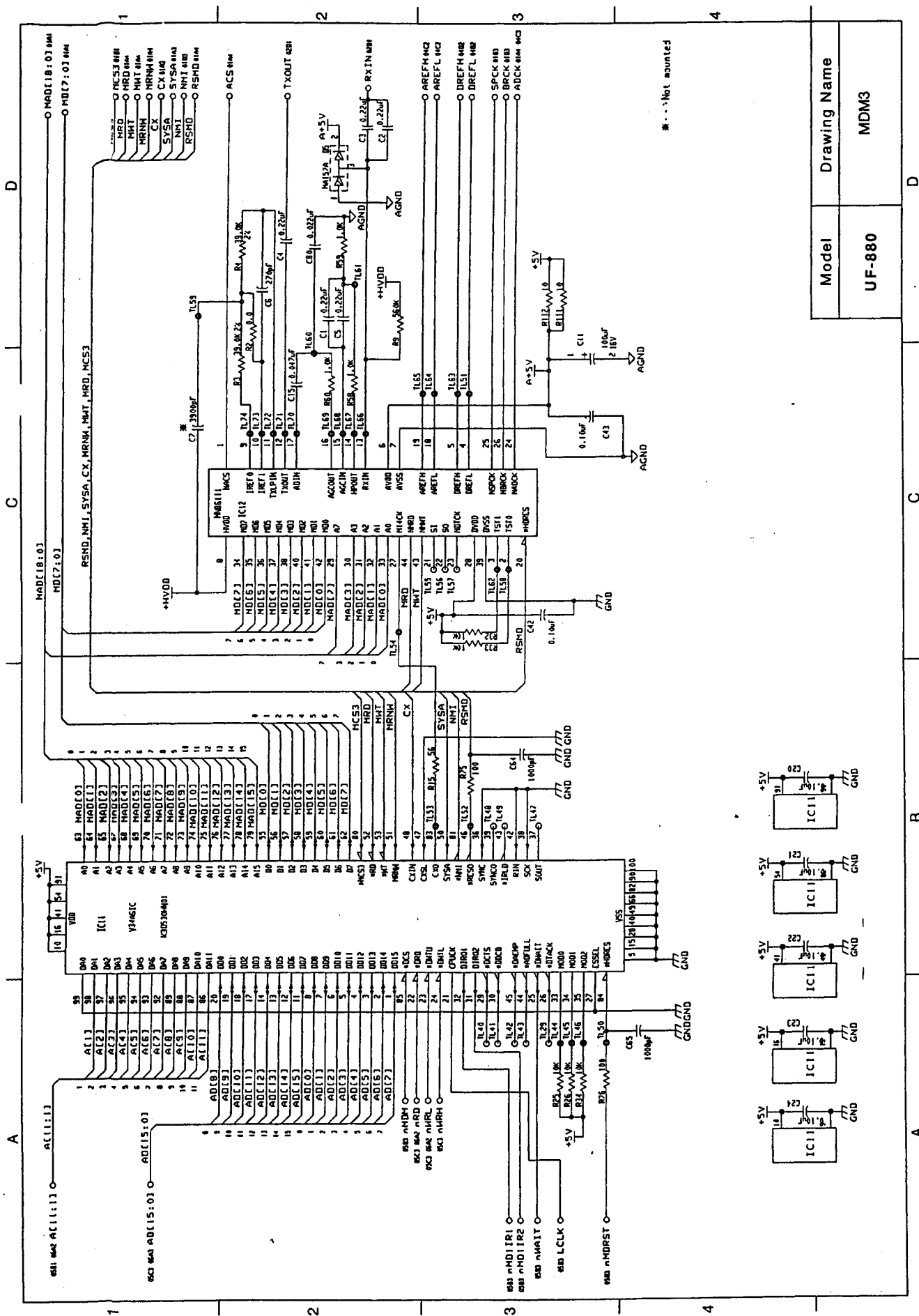


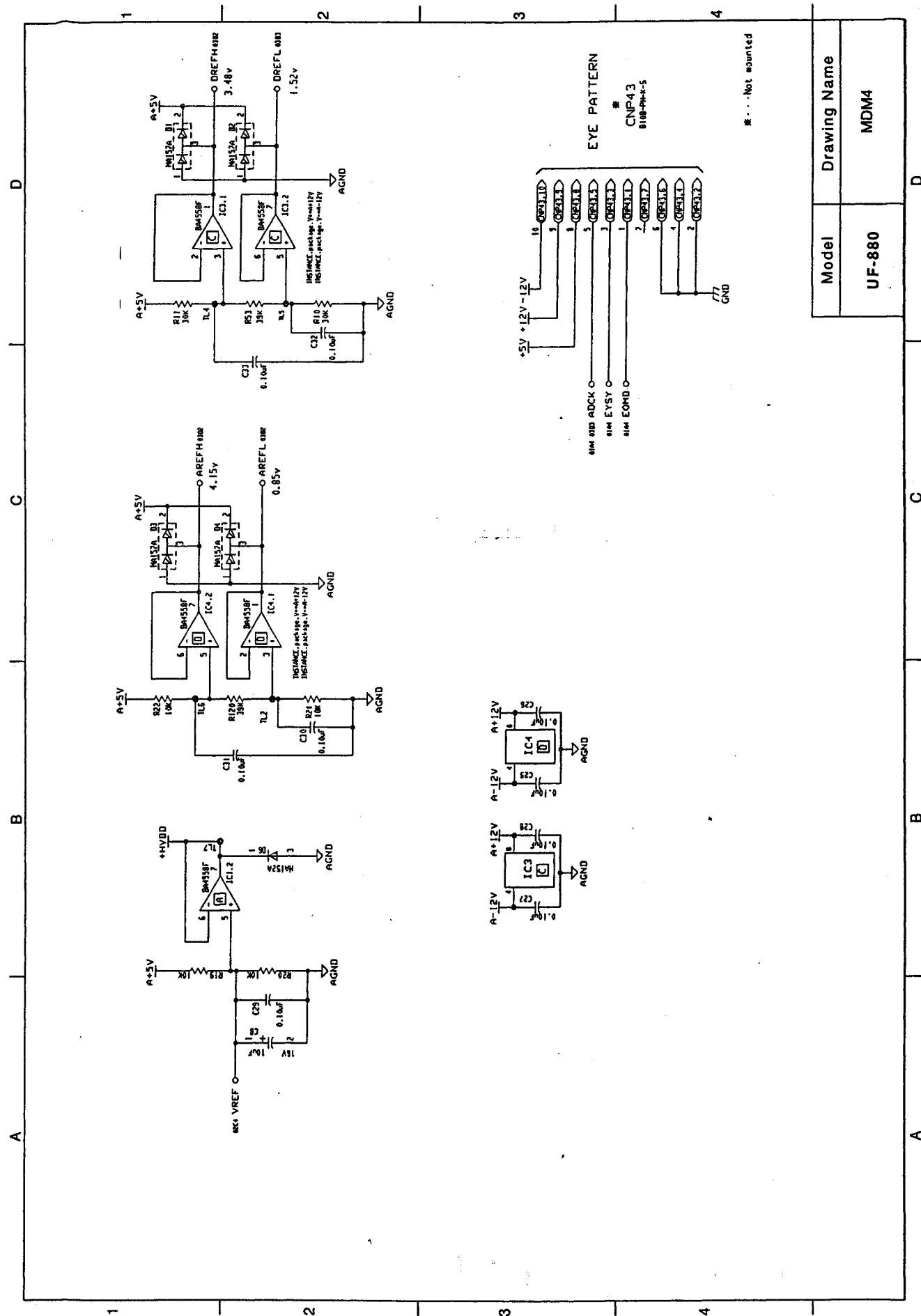
| Model  | Drawing Name |
|--------|--------------|
| UF-880 | MDM1         |



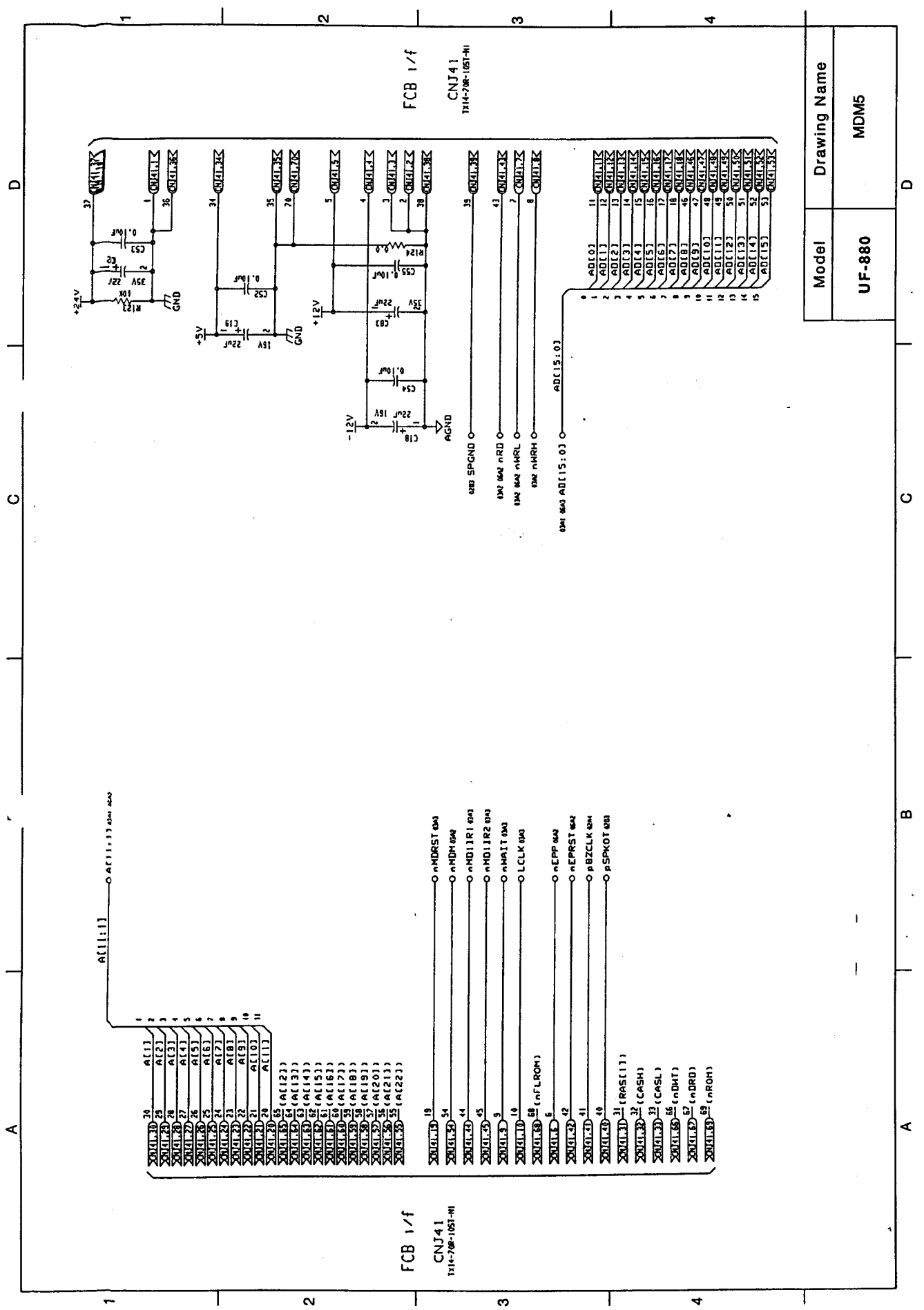
\*\*\* Refer to table  
\*\*\* Not mounted

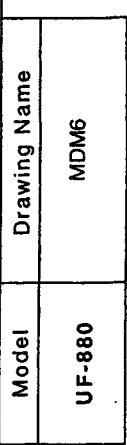
| Model  | Drawing Name |
|--------|--------------|
| UF-880 | MDM2         |

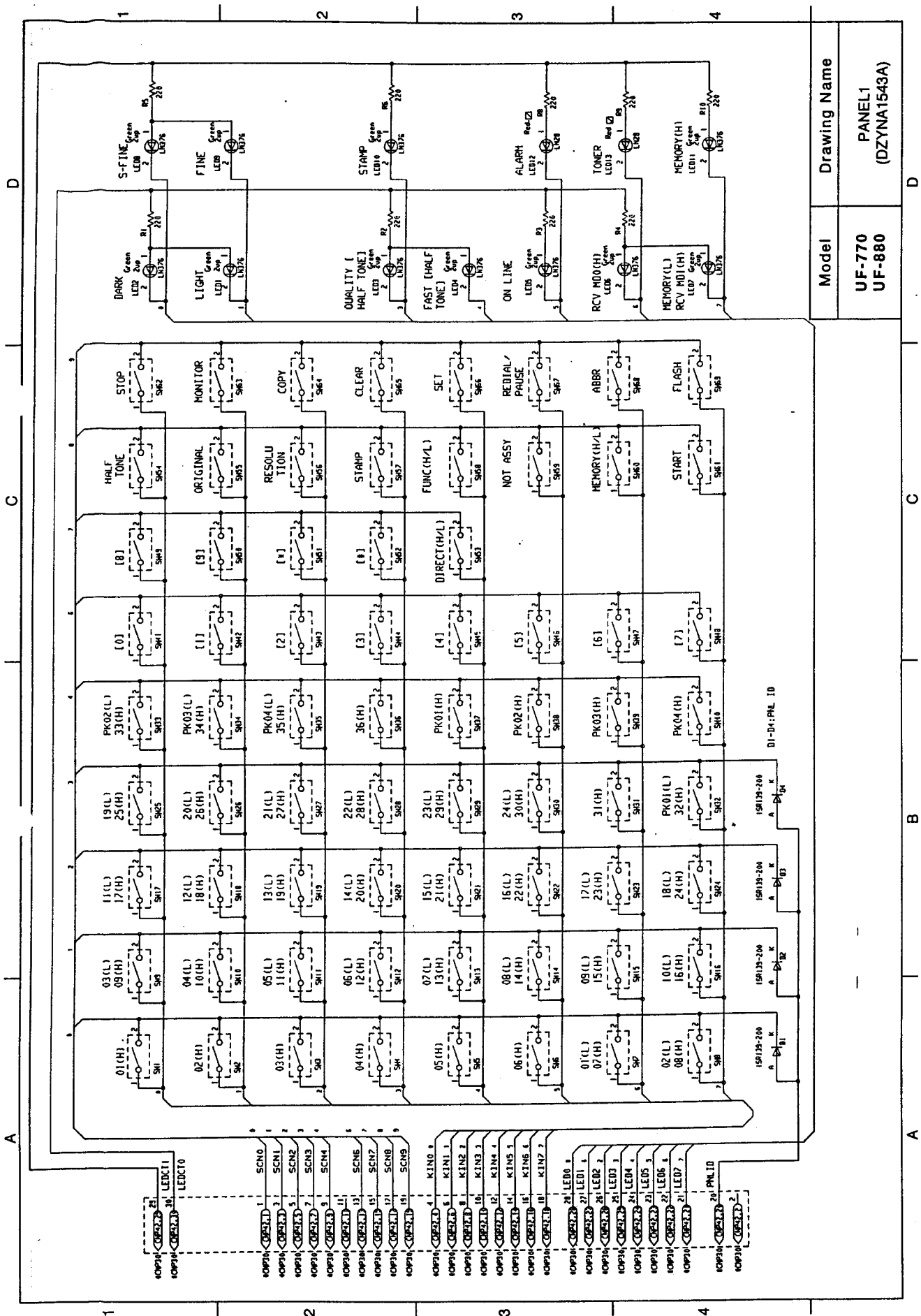




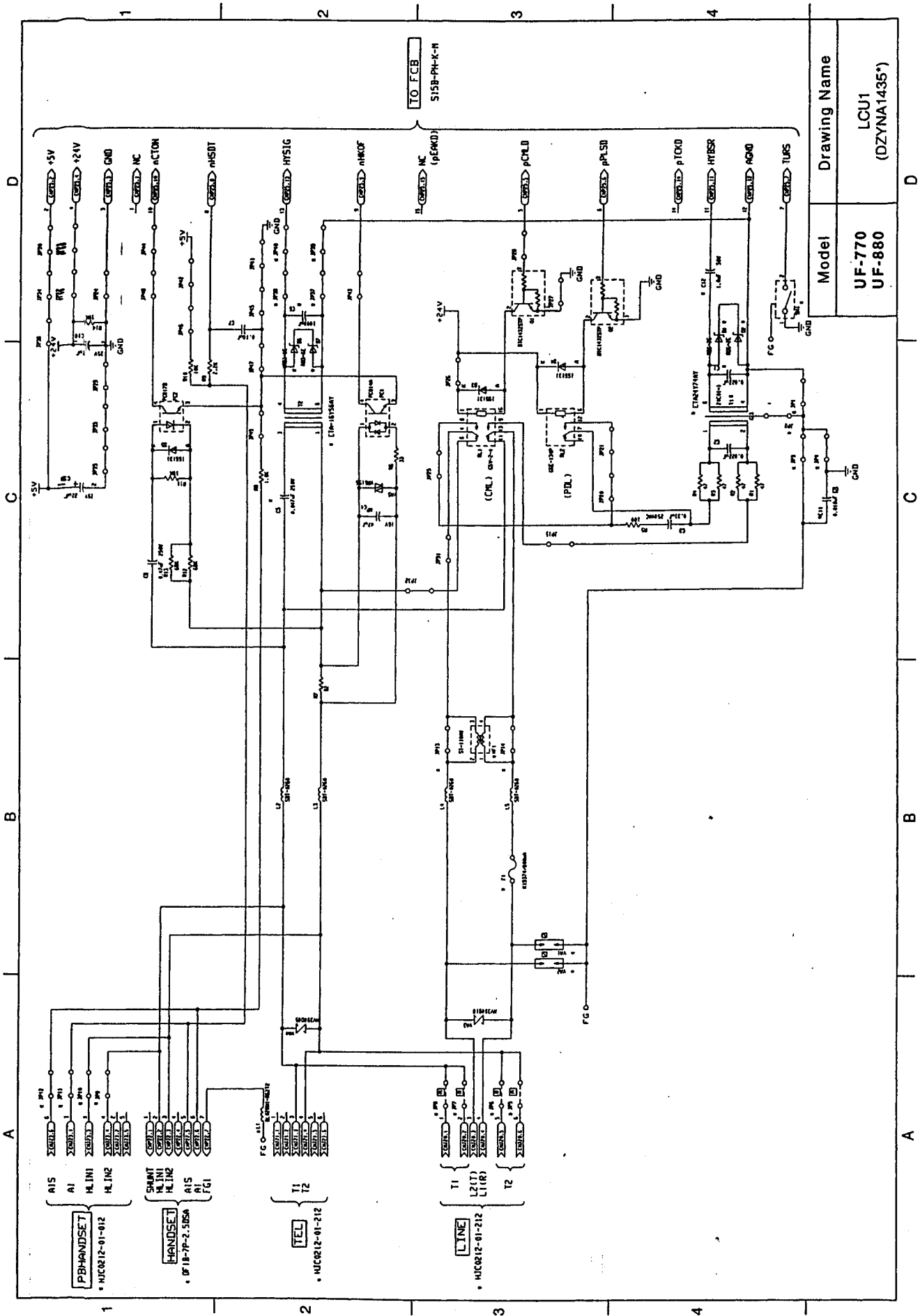
Schematic Diagram



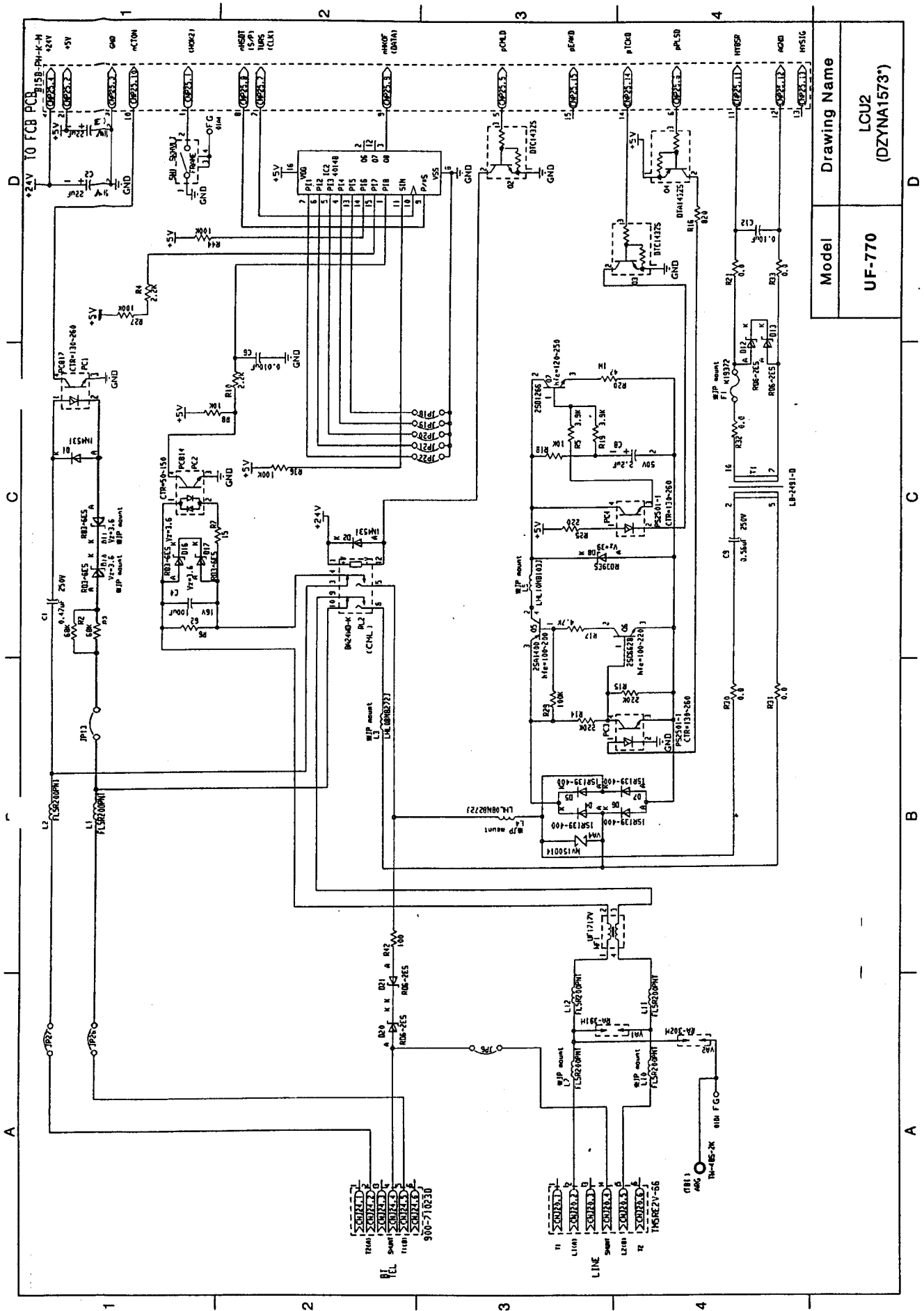


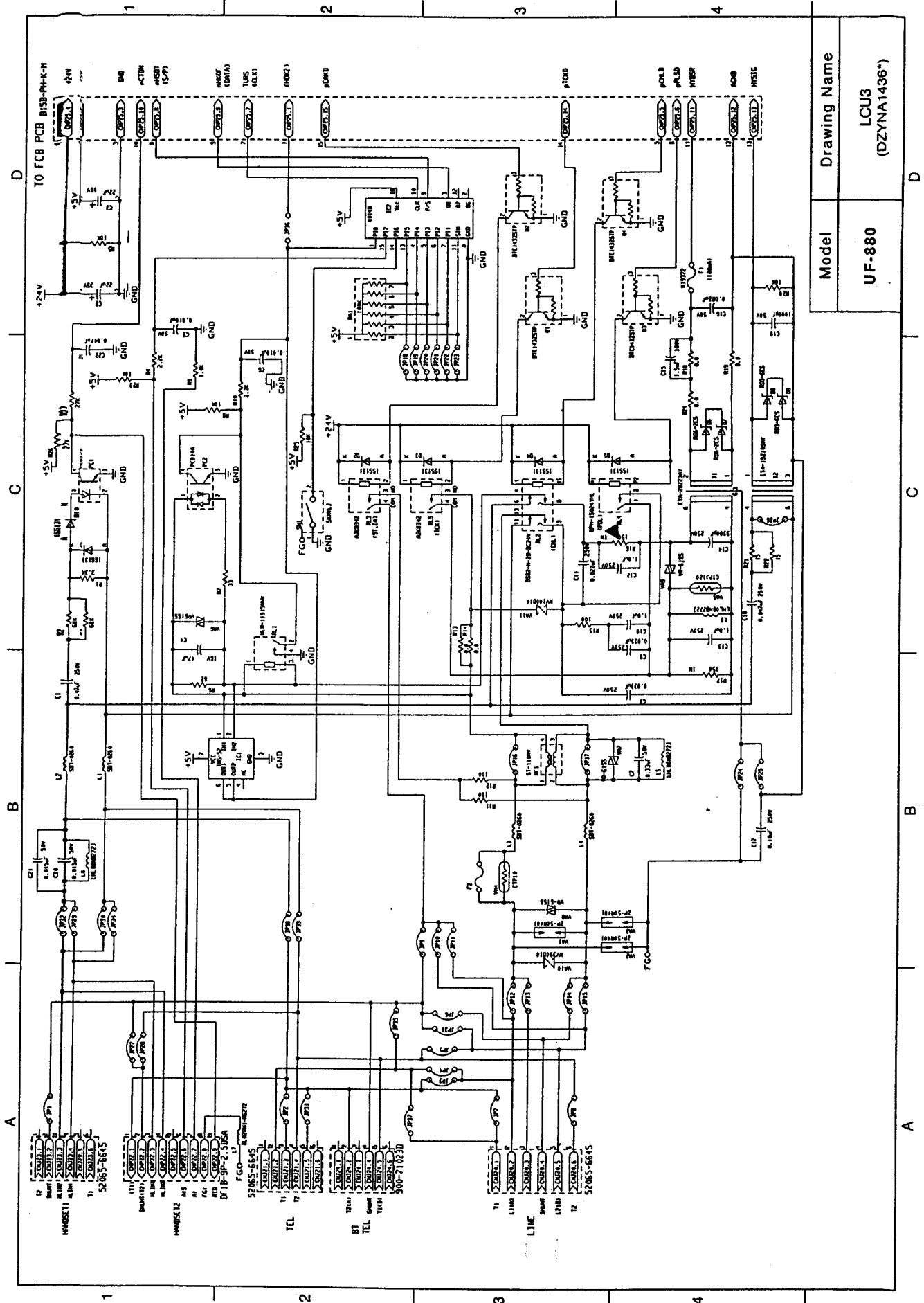






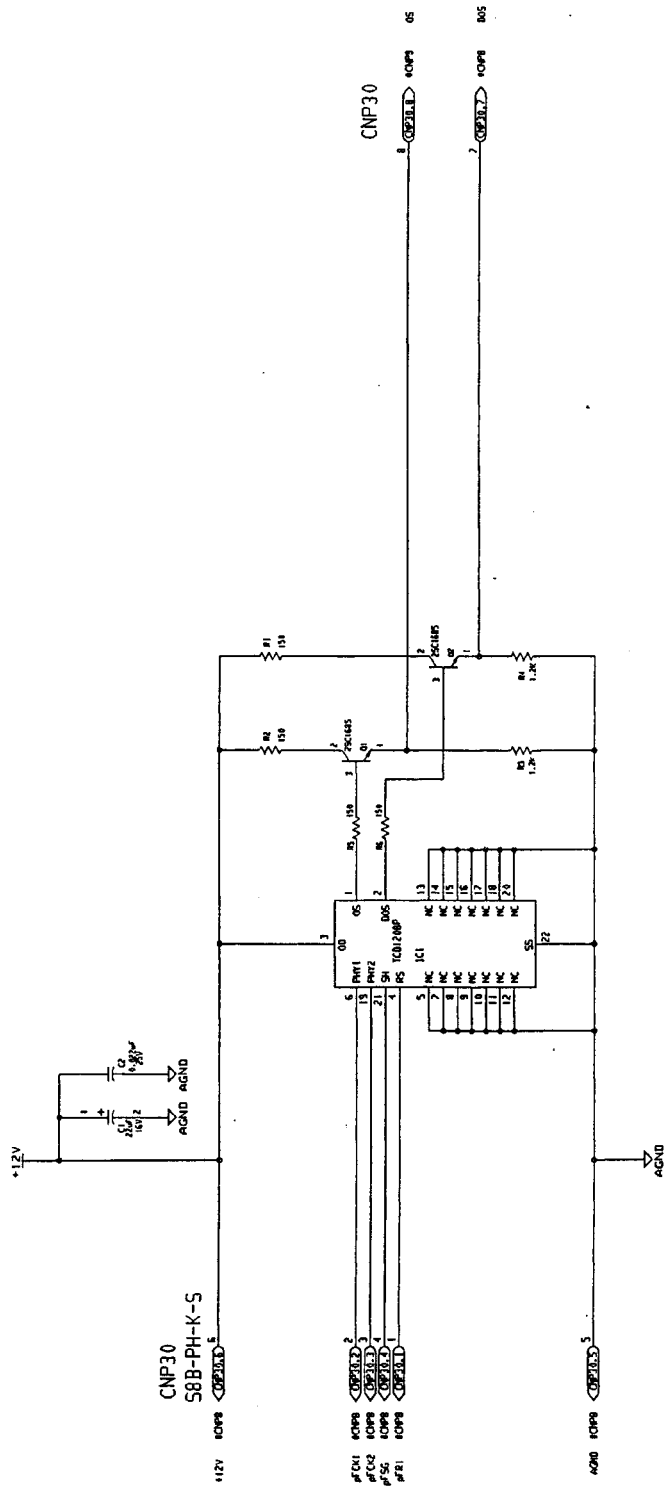
# Schematic Diagram



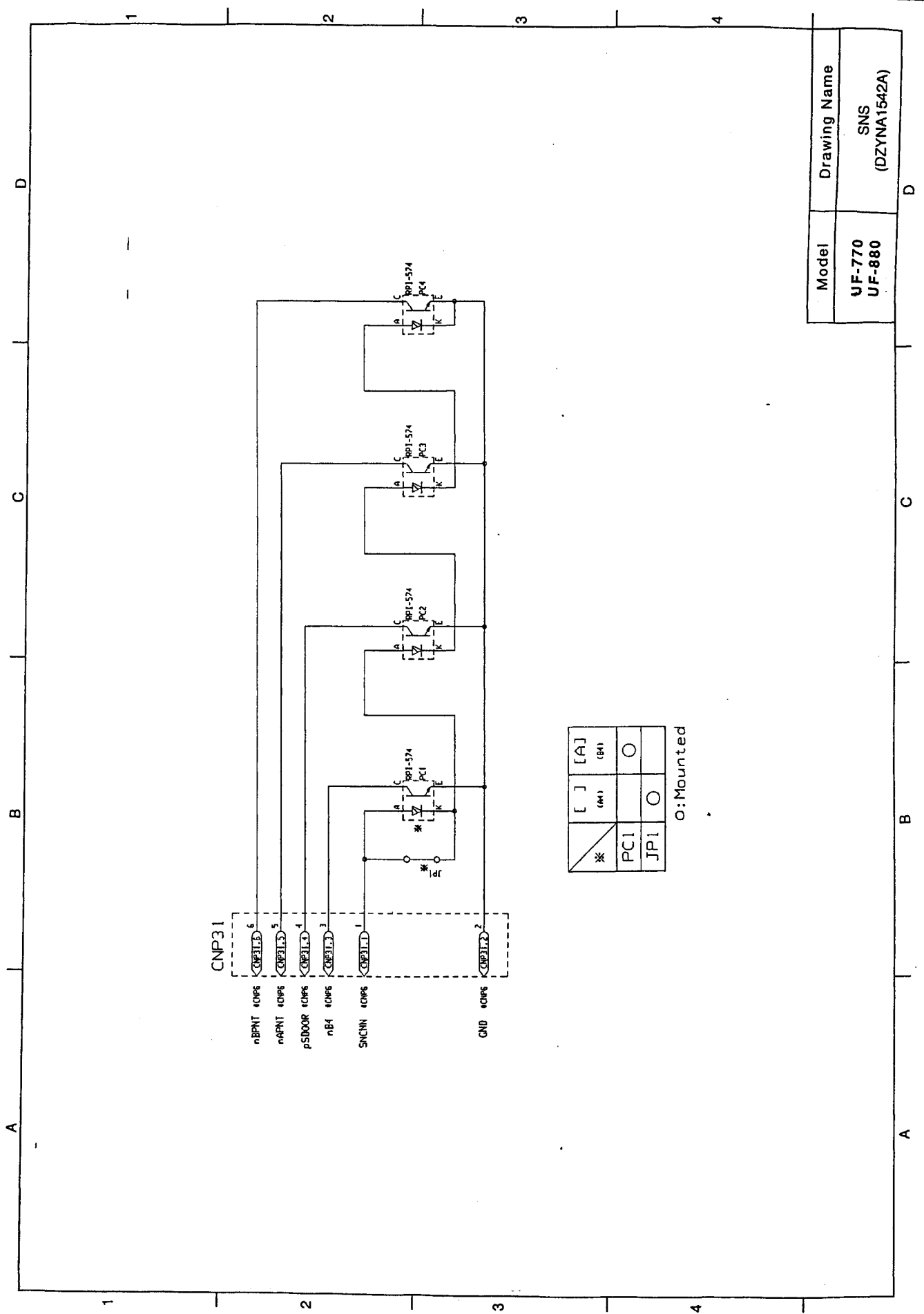


| Model  | Drawing Name         |
|--------|----------------------|
| UF-880 | LCU3<br>(DZYNA1436') |

# Schematic Diagram

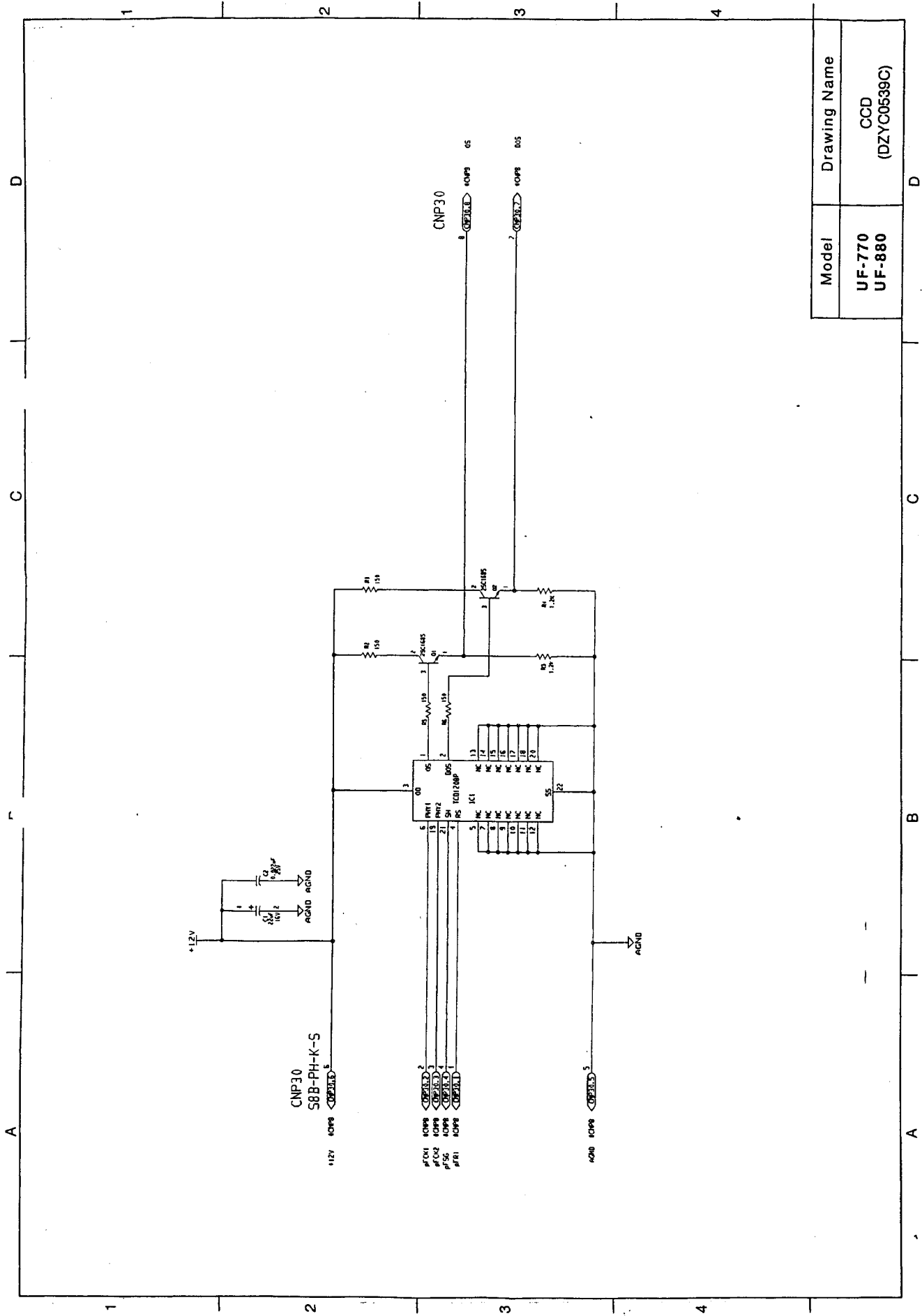


| Model            | Drawing Name       |
|------------------|--------------------|
| UF-770<br>UF-880 | CCD<br>(DZYC0539C) |



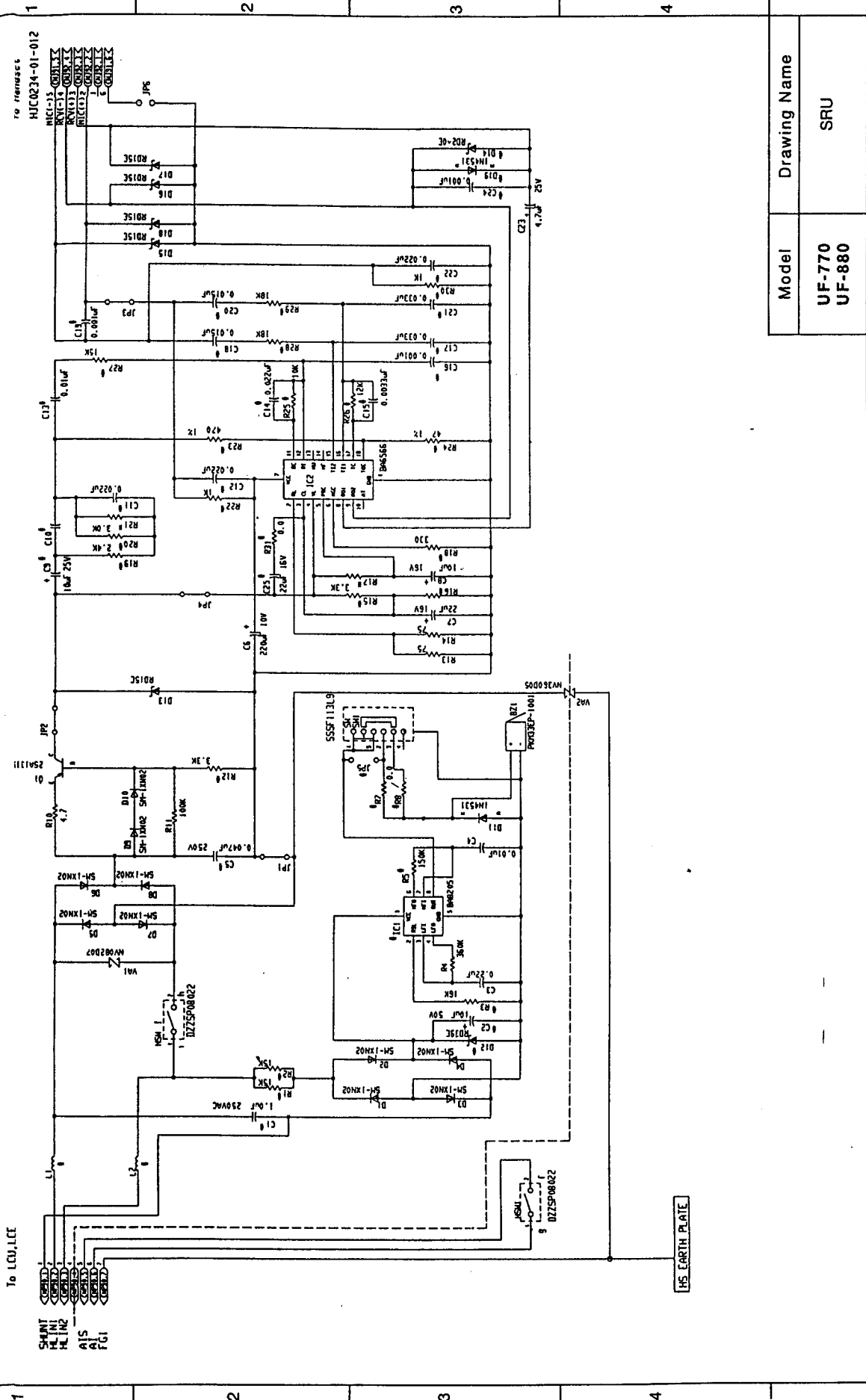
| Model            | Drawing Name        |
|------------------|---------------------|
| UF-770<br>UF-880 | SNS<br>(DZYNA1542A) |

Schematic Diagram



| Model            | Drawing Name       |
|------------------|--------------------|
| UF-770<br>UF-880 | CCD<br>(DZYC0539C) |

# Schematic Diagram

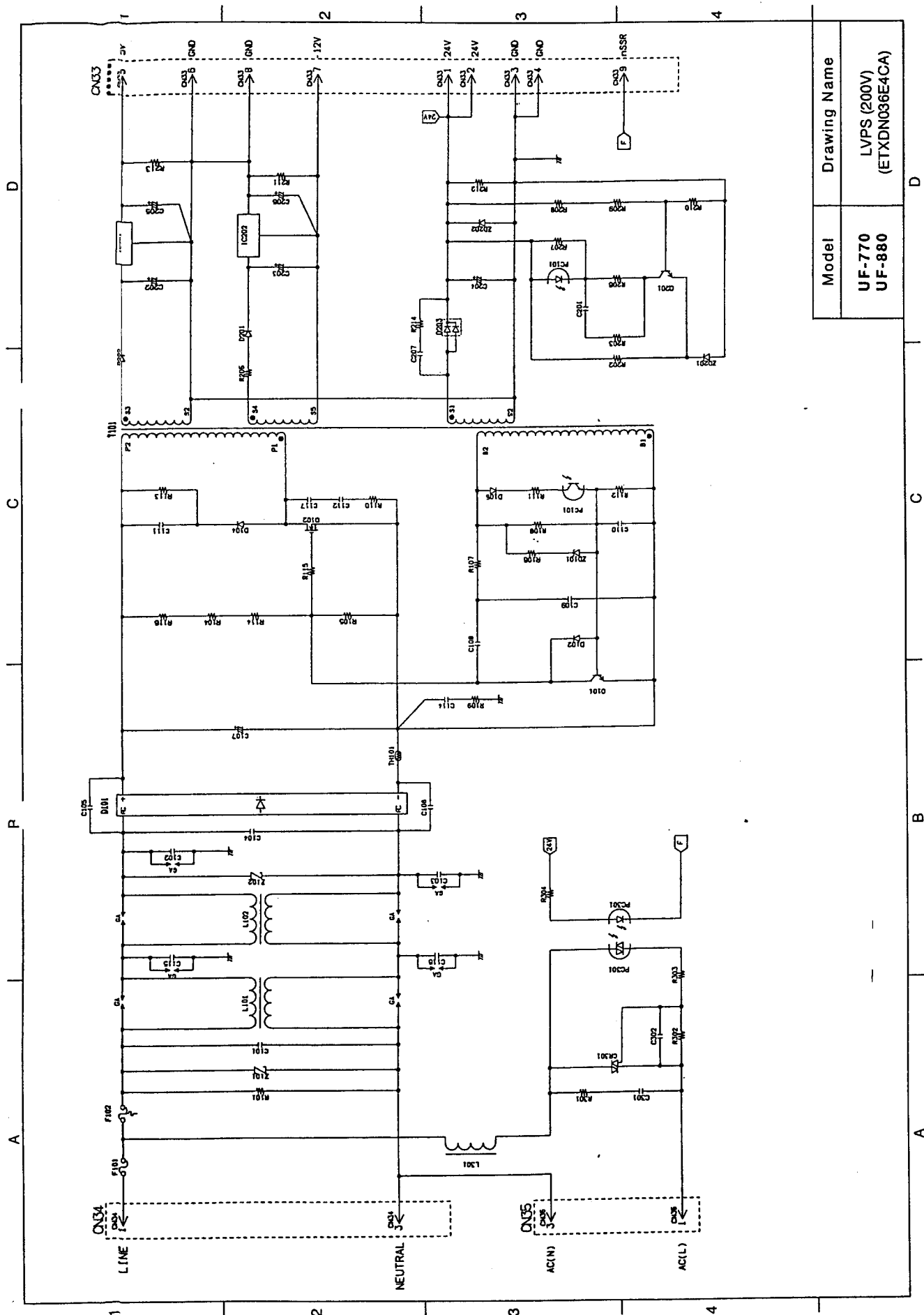


| Model            | Drawing Name |
|------------------|--------------|
| UF-770<br>UF-880 | SRU          |

| Model            | Drawing Name                |
|------------------|-----------------------------|
| UF-770<br>UF-880 | LUPS (100V)<br>(ETXD036A4C) |



# Schematic Diagram



| Model            | Drawing Name                  |
|------------------|-------------------------------|
| UF-770<br>UF-880 | LVPS (200V)<br>(ETXDN036E4CA) |

**Notes**

9445

ORDER NO. MGCS970301S0

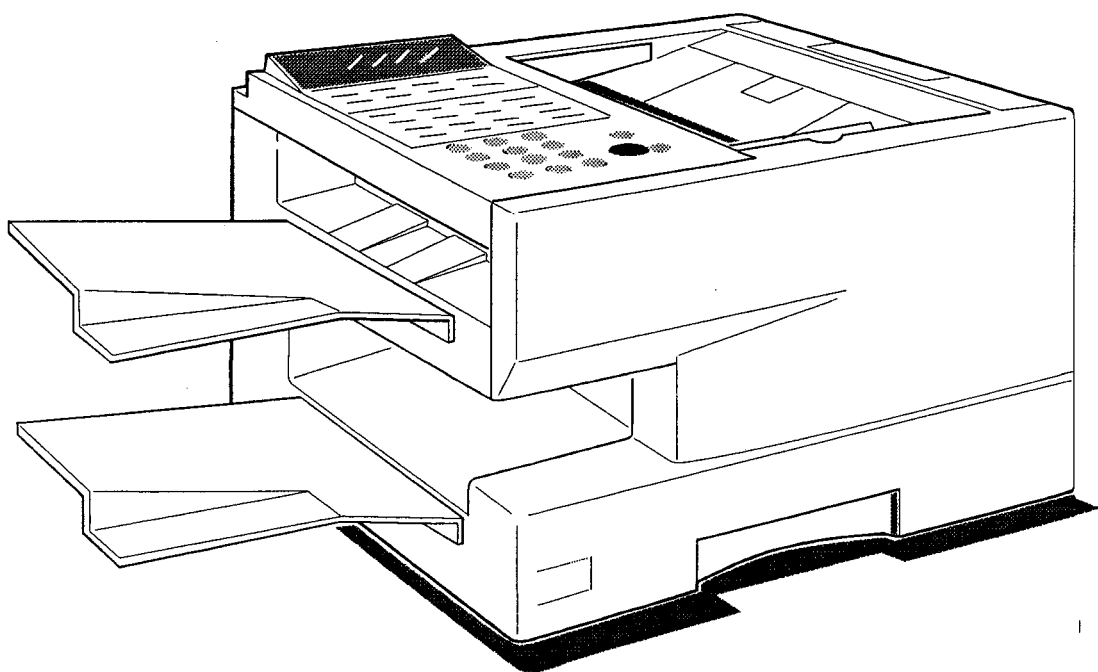
# Service Manual

**Supplement**

Facsimile

**UF-550/770/880**

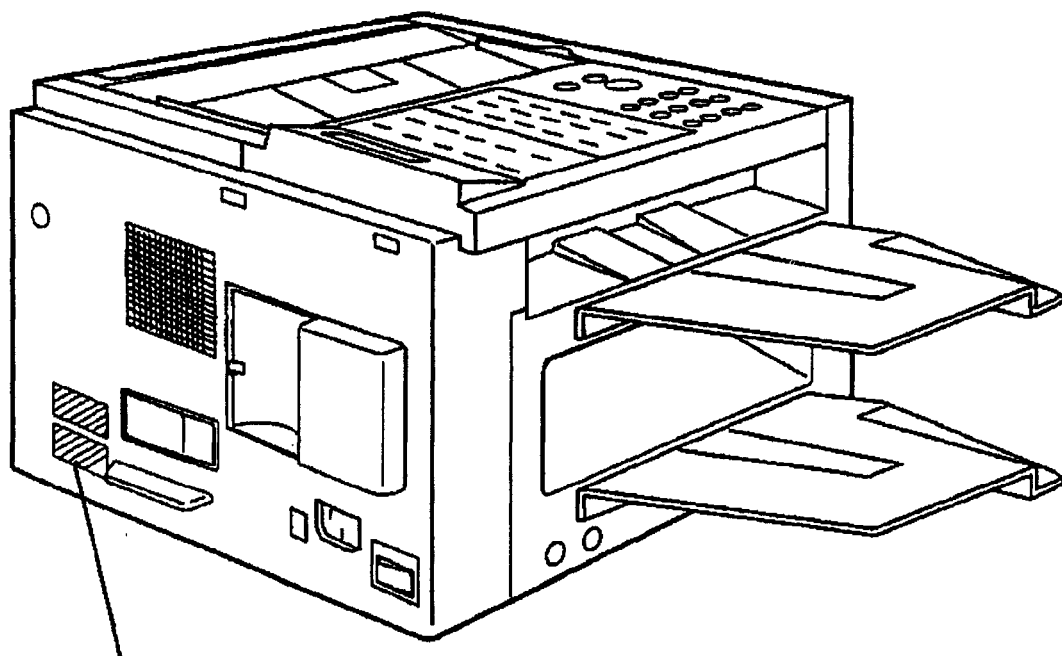
Please file and use this supplement manual with the UF-550 or UF-770/880 Service Manual, Order No. MGCS960601C1 or MGCS970102C0

**Panasonic®**

9445

# WARNING

This service literature is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service literature by anyone else could result in serious injury or death.



**Model and Serial Number**

## **Chapter 11**

### **Enhancements**

## 11.1 Test Mode 12 (LBP Service Mode)

This test mode is used to change printer parameter settings, the printer information & the Check and Call Mode.

| Sub-Code | Parameter Name | Description   |
|----------|----------------|---|
| 1        | 1              | Not used  |
|          | 2              | Not used  |
|          | 3              | Not used  |
|          | 4              | Not used  |
|          | 5              | Printer Counter<br>Displays and resets the printer counter  |
|          | 6              | LBP Fuser Reset<br>Clears the LBP fuser error   |
|          | 7              | Out of Toner<br>Sets the number of pages to print after low toner is detected   |
| 2        | 1              | LBP ID No.<br>Identifies the unit's LBP ID No.  |
|          | 2              | LBP ROM Version<br>Displays the LBP's ROM Version   |
|          | 3              | LBP Print Available<br>Shows the remaining number of allowable printable pages after low toner has been detected ( <u>Counter Only</u> )        |
| 3        | 1              | <b>SERVICE ALERT TEL #</b><br><b>Entering a destination telephone number of the Service Alert Report. Max. 36 digits (i.e. 201 111 2222)</b>    |
|          | 2              | <b>MAINT. ALERT TEL #</b><br><b>Entering a destination telephone number of the Maintenance Alert Report. Max. 36 digits (i.e. 201 111 3333)</b> |
|          | 3              | <b>CUSTOMER ID</b><br><b>Entering a Customer ID code of the Report. Max. 16 characters (i.e. PANASONIC #0001)</b>                               |
|          | 4              | PRINTER REPORT<br>Prints the Printer Report   |

**Note:** Items in **Bold** indicate enhancements added to the Test Mode No. 12.

Use the following procedure to change printer parameter.

| Step | Operation or Unit Condition  | LCD Display                                   |
|------|--|---|
| 1    | Standby  | 12- JAN -1997 15:00<br>00%                    |
| 2    | Press "FUNCTION" and then "7"  | SET MODE (1-6)<br>ENTER NO. OR V ^            |
| 3    | Press "MONITOR" four times, then press "*"   | TEST MODE<br>NO.= (ENTER 0-12)                |
| 4    | Press "12" and "START"   | LBP SERVICE MODE: ■<br>1: PARA 2: INFO 3: C&C |
| 5    | Enter "1" for setting printer parameter.<br>Enter "2" for getting printer information.<br>Enter "3" to go to Check & Call Mode<br>EX: Enter "1" for setting printer parameter. | LBP PARAMATER SET<br>ENTER NO. (1-7) # ■      |
| 6    | Enter "7". Then enter the number of pages..<br>EX: Enter "100" and "START".  | OUT OF TONER : 100<br>ENTER 001-254 (pages)   |
| 7    | Repeat Step 5 through 6 to require operation, or press "STOP" to return to standby.  | 12- JAN -1997 15:00<br>00%                    |

### 11.1.1 Overview

This feature enables the Authorized Servicing Dealers to manage and improve the fax machine maintenance to their customers by alerting them of equipment problems. It also can be used as a Supply Sales Tool by alerting the Dealer that the unit is running Low on Toner. The function overview is as follows:

- 1) The machine's printer error information is stored in the Printer Report.
- 2) The printer report can be manually printed when required.
- 3) When printer errors occurs, the unit can automatically transmit the Service Alert Report to the pre-registered telephone number.
- 4) When the unit detects Low Toner, it can automatically transmit the Maintenance Alert Report to the pre-registered telephone number.

### 11.1.2 Printer Reports

#### • Conditions under which a report can be printed or transmitted

- 1) Manual print  
The Printer Report can be printed by Test Mode 12. Refer to "11.1.3. SETTING OPERATION".
- 2) Automatic transmission
  - a) Maintenance Alert Report  
When the unit detects Low Toner, the unit can automatically transmit the Maintenance Alert Report to the pre-registered telephone number. Refer to the Printer Error Code Table below.
  - b) Service Alert Report  
When the unit detects an Emergency Printer Error, the unit will immediately transmit the Service Alert Report to the pre-registered telephone number. However, the unit will not transmit the Service Alert Report if it finds the same error within the same date in the Error Log.

The Service Alert and Maintenance Alert Reports are managed in the same manner as the normal memory transmission (Retry, Incomplete, File List, Display while it is transmitting, Journal).

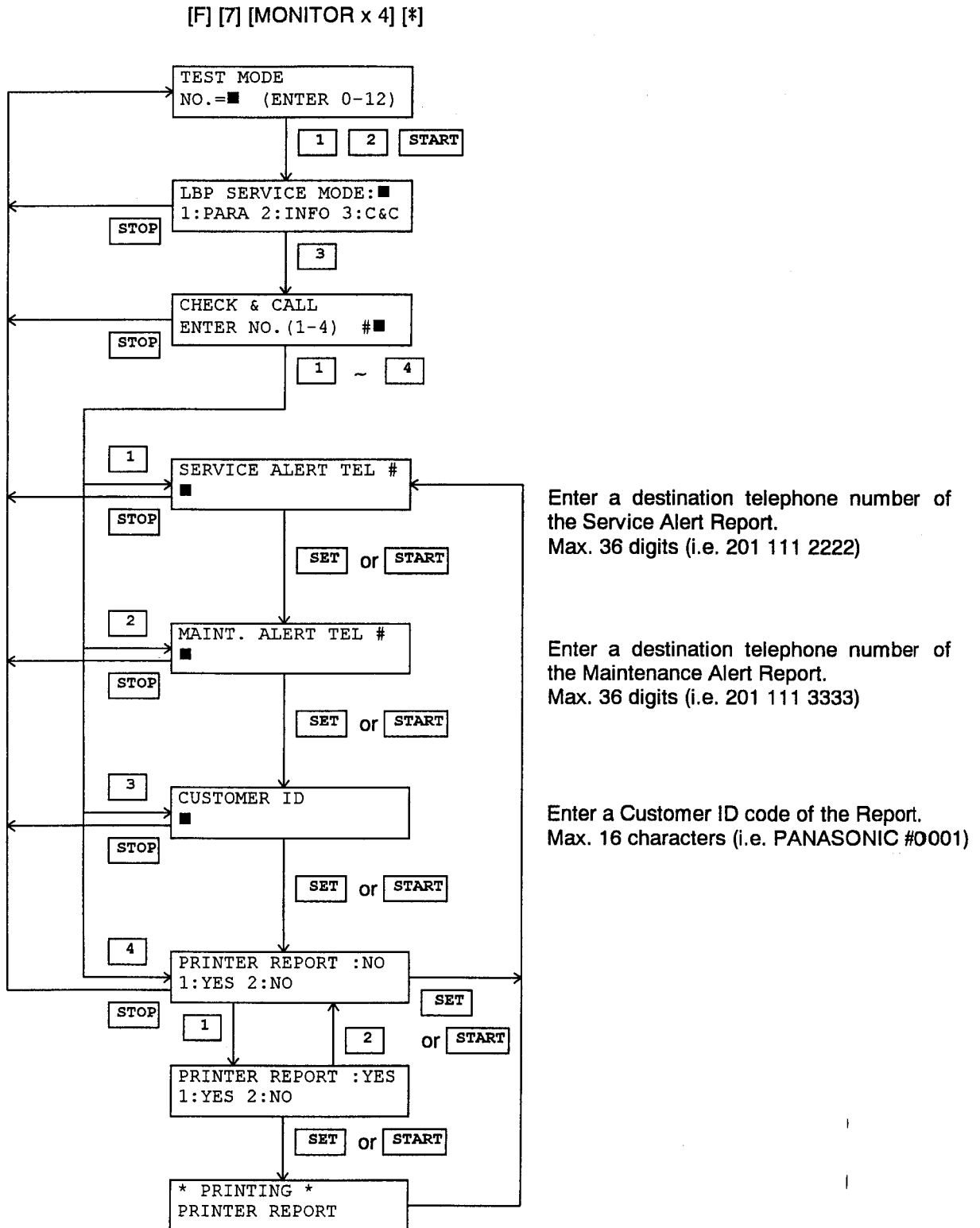
#### • Printer Error Code Table

| Info. Code | Printer Error Code | LED/ LCD        | Log only | Tx Report | Condition | Content of Error   |
|------------|--------------------|-----------------|----------|-----------|-----------|--|
| 001        | 11 -13             | JAM             | ○        |           | R/C       | Paper Jam 1st, 2nd or 3rd Cassette                                   |
| 002        | 14 -1B             | JAM             | ○        |           | R/C       | Paper Exit Error   |
| 010        | 00                 | NO PAPER        |          |           | R/C       | No Paper in 1st, 2nd or 3rd Cassette, or wrong Paper Guide Setting   |
| 011        | 64, 65             | CHECK CASSETTE  |          |           | S         | No 1st, 2nd or 3rd Cassette, or No Paper in 1st, 2nd or 3rd Cassette |
| 021        | 22 -26<br>41       |                 | ○        | ○         | R/C       | Fuser Problem / Fan Problem / LP Thermistor disconnected Problem     |
| 041        | 00                 | TONER           | ○        |           | S/R/C     | No Toner   |
| 043        | 00                 | TONER           | ○        | ●         | S/R/C     | Low Toner Warning  |
| 045        | 61                 | TONER           | ○        |           | S         | No Toner Cartridge   |
| 051        | 00                 |                 | ○        | ○         | S/R/C     | Printer Error  |
| 054        | 31, 32<br>36       |                 | ○        | ○         | R/C       | LSU Problem  |
| 055        | 54, 55, 00         |                 | ○        | ○         | S/R/C     | No response from LP Controller                                       |
| 058        | 00                 |                 | ○        | ○         | R/C       | Interface error occurs with the 500-sheet Optional Cassette Feeder.  |
| 060        | 63                 |                 |          |           |           | Rx Door Open   |
| 870        |                    | MEMORY OVERFLOW |          |           | T/R       | Memory Overflow detected   |

**Note:** 1. Transmission Report: ○ = Service Alert Report, ● = Maintenance Alert Report

2. Condition: R = Receive Mode, C = Copy Mode, S = Standby Mode, T = Transmit Mode

## 11.1.3. Setting Operation



**Note:** To enable the automatic transmission of Service Alert and Maintenance Alert Reports, enter the destination fax telephone numbers in the "SERVICE ALERT TEL #" and "MAINT. ALERT TEL #" fields. A blank entry in these fields, disables the automatic transmission of the Service Alert or Maintenance Alert Reports. SERVICE ALERT TEL #, this would be the fax telephone number for the Dealer's Service Department. MAINT. ALERT TEL #, this could be the fax telephone number for the Dealer's Supply Sales Desk. CUSTOMER ID, to identify your customer, enter a 16 characters alphanumeric user code in this field.



## 11.1.4. Service Alert Report Format

\*\*\*\*\* -PRINTER REPORT- \*\*\*\*\* DATE 15- JAN -1997 \*\*\*\*\* TIME 12:14 \*\*\*\*\*

\*\*\*\*\*  
> SERVICE ALERT REPORT <  
\*\*\*\*\*

(1) (2) (3)  
LAST PRINT ERROR : 15- JAN -97 12:10 No.999-00

CUSTOMER ID : PANASONIC #0001 (4)

FAX ROM VERSION : UF-xxx (NAM) V0.09 (5)

LBP ROM VERSION : 00.10 (6)

TX COUNTER : 999999 (7)

RX COUNTER : 999999

PRT COUNTER : 999999

(1) (2) (3)  
PRINT ERROR : 1. 15- JAN -97 12:10 No.999-00 (8)  
2. 09- NOV -96 10:15 No.999-00  
3. 08- NOV -96 13:48 No.999-00  
4. "  
5. "  
6. "  
7. "  
8. "  
9. "  
10. "  
11. "  
12. "  
13. "  
14. "  
15. "  
16. "  
17. "  
18. "  
19. "  
20. "  
21. "  
22. "  
23. "  
24. "  
25. "  
26. "  
27. "  
28. 27- OCT -96 17:10 No.999-00  
29. 15- SEP -96 12:10 No.999-00  
30. 19- SEP -96 08:10 No.999-00

-PANASONIC -

\*\*\*\*\* -PANAFAX UF-xxx - \*\*\*\*\* - 201 555 1234- \*\*\*\*\*

## Explanation of Contents

- (1) Date & Time that a problem occurred
- (2) Information Code:
- (3) Printer Error Code:
- (4) Customer ID:
- (5) Fax ROM Version
- (6) LBP ROM Version
- (7) Transmission / Reception / Print Counters
- (8) Print Error:

Refer to the Service Manual, Section 4.7  
Refer to the Service Manual, Section 11.1.7  
Up to 16 characters (User Identification Code)

Latest 30 records (from the top latest to oldest)

## 11.1.5. Maintenance Alert Report Format

```
***** -PRINTER REPORT- ***** DATE 15- JAN -1997 ***** TIME 12:14 *****

*****
> MAINTENANCE ALERT REPORT <
*****

LAST PRINT ERROR : MACHINE IS RUNNING OUT OF TONER (1)

CUSTOMER ID      : PANASONIC #0001 (4)

FAX ROM VERSION  : UF-xxx (NAM)V0.09 (5)
LBP ROM VERSION  : 00.10 (6)

TX COUNTER       : 999999 (7)
RX COUNTER       : 999999
PRT COUNTER      : 999999

                                -PANASONIC -

***** -PANAFAX UF-xxx - ***** - 201 555 1234- *****
```

### Explanation of Contents

- (1) Low Toner Message (Fixed)
- (4) Customer ID:
- (5) Fax ROM Version
- (6) LBP ROM Version
- (7) Transmission / Reception / Print Counters

"MACHINE IS RUNNING OUT OF TONER"  
Up to 16 characters (User Identification Code)

## 11.1.6. Printer Report Format

```

***** -PRINTER REPORT- ***** DATE 15- JAN -1997 ***** TIME 12:14 *****

                                (1)      (2) (3)
LAST PRINT ERROR : 15- JAN -97 12:10 No.999-00

CUSTOMER ID      : PANASONIC #0001 (4)

FAX ROM VERSION  : UF-xxx (NAM)V0.09 (5)
LBP ROM VERSION  : 00.10 (6)

TX COUNTER       : 999999 (7)
RX COUNTER       : 999999
PRT COUNTER      : 999999

                                (1)      (2) (3)
PRINT ERROR      : 1.  15- JAN -97 12:10 No.999-00 (8)
                  2.  09- NOV -96 10:15 No.999-00
                  3.  08- NOV -96 13:48 No.999-00
                  4.      "
                  5.      "
                  6.      "
                  7.      "
                  8.      "
                  9.      "
                 10.      "
                 11.      "
                 12.      "
                 13.      "
                 14.      "
                 15.      "
                 16.      "
                 17.      "
                 18.      "
                 19.      "
                 20.      "
                 21.      "
                 22.      "
                 23.      "
                 24.      "
                 25.      "
                 26.      "
                 27.      "
                 28.  27- OCT -96 17:10 No.999-00
                 29.  15- SEP -96 12:10 No.999-00
                 30.  19- SEP -96 08:10 No.999-00

                                -PANASONIC -

***** -PANAFAX UF-xxx - ***** - 201 555 1234- *****

```

**Explanation of Contents**

- (1) Date & Time that a problem occurred
- (2) Information Code:
- (3) Printer Error Code:
- (4) Customer ID:
- (5) Fax ROM Version
- (6) LBP ROM Version
- (7) Transmission / Reception / Print Counters
- (8) Print Error:

Refer to the Service Manual, Section 4.7  
Refer to the Service Manual, Section 11.1.7  
Up to 16 characters (User Identification Code)

Latest 30 records (from the top latest to oldest)

## 11.1.7 Printer Error Code Table

| Error Code | Description of Problems   | Cause   |
|------------|---|---|
| 00         | No problem detected   |   |
| 10         | The Registration Sensor turned OFF before a certain period of time.                                 | 1. Recording paper jam.<br>2. Timing Sensor defective.  |
| 11         | Timing Sensor did not turn ON within a certain period of time. (Standard Cassette Feeder)           | 1. Recording paper mis-feeding, Paper Feed Roller defective.<br>2. Drive Clutch defective.<br>3. Timing Sensor defective. |
| 12         | Timing Sensor did not turn ON within a certain period of time. (250-sheet Optional Cassette Feeder) | 1. Recording paper mis-feeding, Paper Feed Roller defective.<br>2. Drive Clutch defective.<br>3. Timing Sensor defective. |
| 13         | Timing Sensor did not turn ON within a certain period of time. (500-sheet Optional Cassette Feeder) | 1. Recording paper mis-feeding, Paper Feed Roller defective.<br>2. Drive Clutch defective.<br>3. Timing Sensor defective. |
| 14         | Timing Sensor did not turn OFF within a certain period of time.                                     | 1. Recording paper jam.<br>2. Timing Sensor defective.  |
| 15         | Paper Eject Sensor did not turn ON within a certain period of time.                                 | 1. Recording paper jam.<br>2. Paper Eject Sensor defective.   |
| 16         | Paper Eject Sensor did not turn OFF within a certain period of time.                                | 1. Recording paper jam.<br>2. Paper Eject Sensor defective.   |
| 17         | Timing Sensor detected paper while initializing the unit.   | 1. Recording paper jammed in the unit.<br>2. Timing Sensor defective.   |
| 18         | Paper Eject Sensor detected paper while initializing the unit.                                      | 1. Recording paper jammed in the unit.<br>2. Paper Eject Sensor defective.  |
| 1B         | Paper Cassette slid out while Recording Paper is Feeding.   | 1. Recording Paper Jam.   |
| 22         | The temperature of the Fuser Roller remained low even after circuit was activated.                  | 1. Fuser Unit defective.<br>2. FCB PCB defective.<br>3. LVPS PCB defective.   |
| 23         | Abnormally high Fuser Roller temperature after the circuit was de-activated.                        | 1. Fuser Unit defective.<br>2. FCB PCB defective.<br>3. LVPS PCB defective.   |
| 24         | The temperature of the Fuser Roller was not controlled within a certain margin.                     | 1. Fuser Unit defective.<br>2. FCB PCB defective.<br>3. LVPS PCB defective.   |
| 25         | Thermistor open.  | 1. Thermistor defective (Fuser Unit).<br>2. FCB PCB defective.  |
| 26         | Thermistor detected temperature over 200 °C.  | 1. Thermistor defective (Fuser Unit).<br>2. FCB PCB defective.<br>3. LVPS PCB defective.                                  |
| 31         | The Polygon Motor did not reach a constant speed of 5,000 rpm within a certain period of time.      | 1. LSU defective.   |
| 32         | The Polygon Motor did not maintain a constant speed of 5,000 rpm.                                   | 1. LSU defective.   |
| 36         | HSYNC signal abnormal.  | 1. LSU defective.<br>2. FCB PCB defective.  |
| 41         | Fan does not rotate.  | 1. Fan defective.<br>2. FCB PCB defective.  |
| 54         | A/D Converter error.  | 1. FCB PCB defective.   |
| 61         | Unit detected "No Toner Cartridge".   | 1. Toner Cartridge is not installed.<br>2. Toner Sensor defective.  |
| 63         | Unit detected "Printer Door Open".  | 1. Printer door is not closed.<br>2. ILS PCB defective.   |
| 64         | Unit detected "No Cassette".  | 1. Cassette not installed or partially open.<br>2. Cassette Sensor defective.   |
| 65         | Unit detected "Out of Paper".   | 1. Cassette(s) ran out of receiving paper.<br>2. Paper Detect Sensor defective.   |

| Error Code | Description of Problems                                      | Cause  |
|------------|--|--|
| 68         | Jam Access Cover Sensor of the 250-sheet Cassette is opened. | 1. Jam Access Cover Sensor of the 250-sheet Optional Cassette Feeder is defective. |
| 69         | Jam Access cover sensor of 500-sheet Cassette opened.        | 1. Jam Access Cover Sensor of the 500-sheet Optional Cassette Feeder is defective. |
| 71         | Interface error occurs with the 500-sheet Cassette.          | 1. CN101 or 126 is disconnect.<br>2. CST3 PCB defective.                           |

**Note:** If an 021 series Error Code occurs, 021-25 (Thermistor Open) or 021-26 (Thermistor detected temperature over 200°C), a pre-programmed recovery safety software is activated to protect the unit and the service personnel during abnormal increase in temperature.

Once activated, this program is downloaded into the FCB PC Board's S-RAM, disabling the Fuser Lamp and preventing it from turning ON again.

In order to reset this circuit, please follow the procedure below:

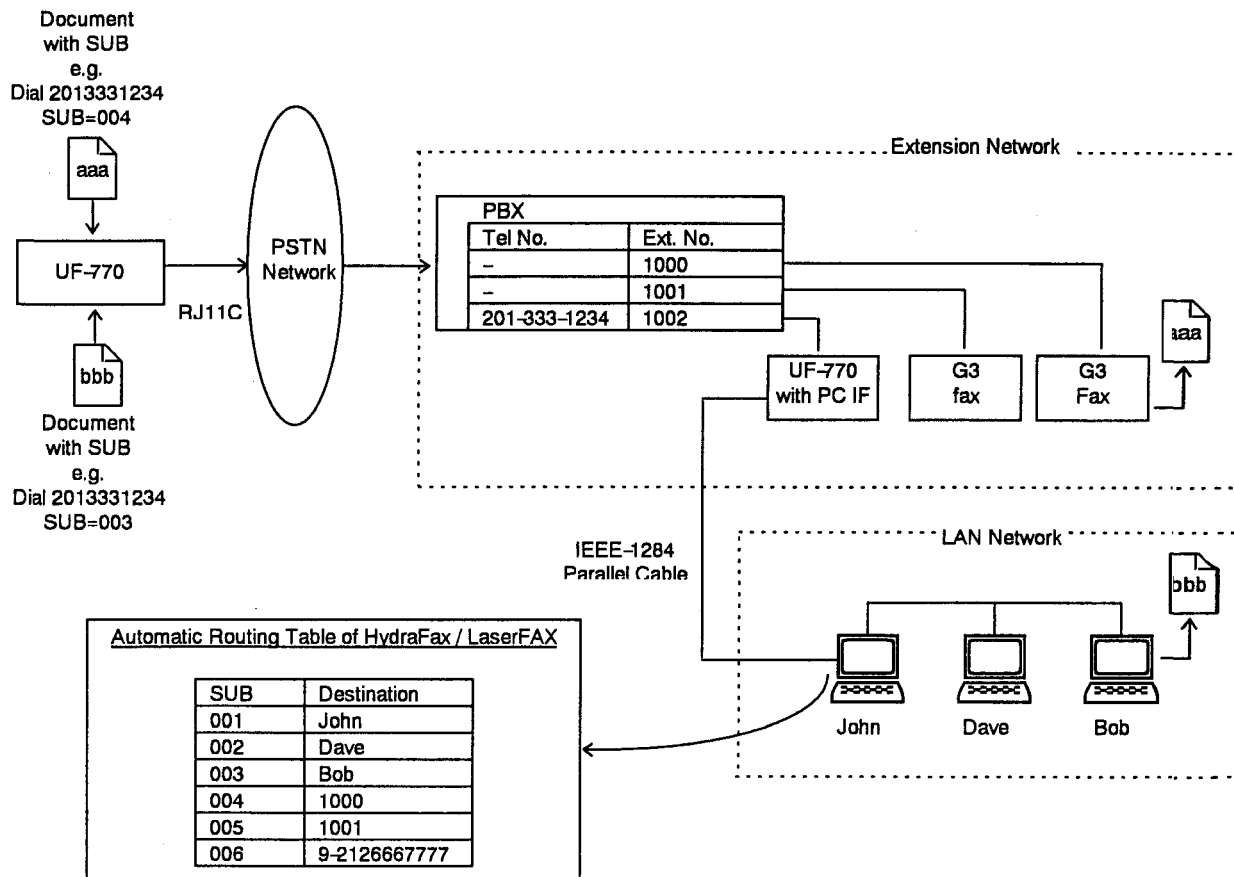
- 1) Reset the LBP Memory by using Test Mode 12-1-6 (Section 11.1) and then reset the Power OFF/ON.
- 2) Replace the Thermistor or Fuser Unit. If the problem persists.
- 3) Replace the FCB PCB.

## 11.2 Sub-addressing (PC Interface Option)

### 11.2.1 General Description

The Sub-addressing function allows you further routing, forwarding or relaying of document(s) to the desired recipient(s) when used in combination with the Networking version of HydraFax™/LaserFAX™ software. This function conforms to the ITU-TS recommendation for T. Routing-Facsimile Routing utilizing the Sub-address.

#### Example of a Network



#### Compatibility with Other Machines

- Sub-addressing Transmission: UF-342 / 550 / 770 / 788 / 880 (see Note 2)
- Sub-addressing Reception: UF-342 / 550 / 770 / 788 / 880 with PC Interface Option using the Networking version of HydraFax™ / LaserFAX™ software.

#### Sub-addressing Transmission Methods

You can send a document with Sub-address information to the desired recipient by the following methods.

- By registering the Sub-address information into One-Touch/ABBR. Dialing Numbers
- By specifying the Sub-address information in the Manual Number Dialing Mode.

#### Setting of Routing, Forwarding or Relaying

You can customize the Automatic Routing to any combination of LAN (Local Area Network), PSTN (Public Switched Telephone Network) or PBX Extension with HydraFax / LaserFAX Routing Table (please refer to the HydraFax/LaserFAX User Manual).

- !** **Note:** 1. HydraFax and LaserFAX are trademarks of Wordcraft Systems, Inc. and Wordcraft International Ltd. respectively.
2. UF-788 with PC Interface Option or the Option ROM installed.

## 11.2.2 To set the Sub-address into a One-Touch/ABBR. Dialing Numbers

1    **FUNCTION** **7** **2** **SET**

1:ONE-TOUCH  
2:ABBR. NO.

2    Select 1 for One-Touch Dialing Number  
      Select 2 for ABBR. Dialing Number

Ex: **1**

ONE-TOUCH< >  
PRESS ONE-TCH OR V A

3    **01**

<01>  
ENTER TEL. NO.

4    Enter the telephone number, press the FLASH key then enter the  
      Sub-address (up to 20 digits).  
      (up to 36 digits including telephone number, pauses, spaces,  
      FLASH and Sub-address)

Ex: Telephone number = 5551234, Sub-address = 2762

Enter as: 5551234 **FLASH** 2762

<01>  
5551234s2762■

5    **SET**

Enter the station name

<01> SALES DEPT■  
5551234s2762


6    **SET** **STOP**

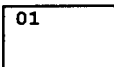
**!** **Note:** SUB-ADDR/FLASH key separates the Sub-address from the Telephone number and is indicated by an "s" in the display.


### 11.2.3 To send a Document with Sub-address

- **Using One-Touch/ABBR. Number Dialing**

The operation is the same as for normal dialing

1  Set document(s) face down

2 

3 

ENTER STATION(S)  
THEN PRESS START 00%


<01> (Station name)  
5551234s2762

\* STORE \* NO.001  
PAGES=01 01%

The document is stored into memory and your machine starts to dial the number of the station and sends the document(s) with Sub-addressing information.


- **Using Manual Number Dialing**


Use the Flash key to separate the Telephone number and the Sub-address.

1  Set document(s) face down.

2 Enter the telephone number, press the FLASH key then enter the Sub-address (up to 20 digits).  
(up to 36 digits including telephone number, pauses, spaces, FLASH and Sub-address)

Ex: Telephone number = 5551234, Sub-address = 2762

Enter as: 5551234  2762


3 

ENTER STATION(S)  
THEN PRESS START 00%

TEL. NO.  
5551234s2762■

\* STORE \* NO.001  
PAGES=01 01%

The document is stored into memory and your machine starts to dial the number of the station and sends the document(s) with sub-addressing information.

-  **Note:** 1. The SUB-ADDR/FLASH key separates the Sub-address from the Telephone number and is indicated by an "s" in the display.  
2. Manual Off-Hook or On-Hook Dialing cannot be used with the Sub-addressing Transmission.  
3. The Sub-address is not transmitted during Manual Redial Mode.



## 11.3 Additional Information Codes

### 11.3.1 Additional Information Codes

| Code | Mode | Phase | Description of Problem  | Cause  |
|------|------|-------|---|--|
| 580  | XMT  | B     | Sub-address transmission to a unit that has their DIS frame, bit-49 (NSF frame bit-155) set "Off".                | A Sub-address transmission was initiated to a unit that does not support Sub-address function. |
| 581  | XMT  | B     | Sub-address with Password transmission to a unit that has their DIS frame, bit-50 (NSF frame, bit-156) set "Off". | A Sub-address transmission was initiated to a unit that does not support Sub-address function. |

## Table of Contents

|                   |   |             |
|-------------------|---|-------------|
| <b>Chapter 11</b> | <b>Enhancements</b>   | <b>11-1</b> |
| 11.1              | Test Mode 12 (LBP Service Mode)                               | 11-2        |
| 11.1.1            | Overview  | 11-3        |
| 11.1.2            | Printer Reports   | 11-3        |
| 11.1.3            | Setting Operation   | 11-4        |
| 11.1.4            | Service Alert Report Format                                   | 11-5        |
| 11.1.5            | Maintenance Alert Report Format                               | 11-6        |
| 11.1.6            | Printer Report Format   | 11-7        |
| 11.1.7            | Printer Error Code Table                                      | 11-8        |
| 11.2              | Sub-addressing (PC Interface)                                 | 11-10       |
| 11.2.1            | General Description   | 11-10       |
| 11.2.2            | To set the Sub-address into a One-Touch/ABBR. Dialing Numbers | 11-11       |
| 11.2.3            | To send a Document with Sub-address                           | 11-12       |
| 11.3              | Additional Information Codes                                  | 11-13       |
| 11.3.1            | Additional Information Codes                                  | 11-13       |